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A REPORT OF SIX CASES OF COMPOSITE ODONTOMES*

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CHICAGO

My excuse, if any is necessary, for reporting these cases at this time is: first, their rarity; second, the fact that they are occasionally mistaken for malignant growths, and consequently large sections of jaws are removed, when, had correct diagnosis been made, no such unnecessary maiming and disfiguration would have resulted; and, third, my desire to add to those previously reported by others six exceptionally interesting specimens of odontomes of the composite variety and to record them where they may be easily accessible to medical men interested in this group of tumors. The first and second of these specimens were reported in the proceedings of the National Dental Association in 1902.

Odontomes are rare in man. They are more frequently found in the jaws of the horse and other animals, but when both those found in man and those found in animals are considered, the number is relatively small. Composite odontomes are most frequently found in the mandible, but are not to be excluded from the maxilla, since two of those in this report were from the upper jaw. They seem to belong to the molar region of the jaws.

Bland-Sutton[1] has given the best classification of odontomes. He has simplified the classification by naming them in accordance with the part of the tooth germ from which they are supposed to originate. In his seventh and last class he places the growths to be described in this report under the head of composite odontomes. His reason for naming them composite odontomes is the fact that they are composed of all of the histologic elements entering into the various tissues composing the teeth, thrown together indiscriminately.

The composite odontome, as indicated, is made up of enamel, dentine and cementum. These tissues may be thrown together in a more or less homogeneous mass, plus well-formed diminutive teeth, all united by cementum, easily made out macroscopically, or the formation may appear to the eye only as a conglomerate mass with no well-marked tooth forms. As will be seen from the illustrations, however, this simple, homogeneous mass, as observed by the unaided eye, is transformed by magnification in a complex tumor of regularly formed teeth with their roots and canals all cemented into a solid and compact body.

The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth or dentary bodies, in that the dentigerous cyst contains no cement substance other than that which covers the root of the individual tooth, when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the other; besides there is a well-defined cyst wall and cyst fluid. In the composite odontomes there is no cyst wall or cyst fluid, so far as I have been able to discover.

The origin of composite odontomes has not been fully made out, but it is reasonable to attribute them to the same source as that of multilocular cysts or adamantomas, that is, to unathrophied remains of the epithelial cord; or possibly to extra buds given off from the epithelial lamina, which have become distorted in development. Black attributes supernumerary teeth to additional buds, which buds he has demonstrated.

The diagnosis of odontomes is generally spoken of as difficult. If the growth is of the composite variety and has been uncovered through absorption of bone with suppuration of the soft tissues overlying, it may be and is often mistaken for necrosed bone, since the color and general appearance is very similar, but on close examination, by means of the sharp steel probe, the texture is found different, the odontome being of a denser structure, resisting penetration, while dead bone may be penetrated to a limited degree. In addition to this difference we find in all cases of necrosis of the jaws thickening of the overlying soft tissues with induration. These conditions do not accompany odontomes. It may also, when not exposed, as before indicated, simulate osteoma, likewise that peculiar thickening of bone sometimes found about infected pulpless roots of the molar teeth. It may be confused with sarcoma of the jaw or adamantoma. If the growth can be reached with the sharp steel probe, differentiation from the before-mentioned tumors may generally be made. The surest method of differentiation of odontomes fully covered by bone is by the aid of the skiagraph. The odontome, being of dense structure similar to that of the tooth, may be skiagraphed in the jaw, as are the roots of teeth. The history accompanying odontomes is of value in diagnosis. They are of slow growth, the enlargement of the jaw usually having been noticed months or even years before the case presented to the surgeon. Such slow growths would not be the case in sarcoma. The absence of pain before the growth reaches the surface also differentiates it from most malignant neoplasms.

CASE 1.—The remarkable growth shown in Figure 1 was removed by me from the right side of the lower jaw of a young man at my clinic at Northwestern University Dental School. Figure 2 shows the reverse side of this odontome. The history of this case, as given by Dr. Charles S. Leininger of Chicago, who brought the patient to the clinic, is as fol

* Chairman's address before the Section on Stomatology of the American Medical Association at the Sixty-First Annual Session, held at St. Louis, June, 1910.

1. Bland-Sutton: Tumors, Innocent and Malignant.

lows: "Patient, aged 19, came Oct. 7, 1900, for treatment for a supposed alveolar abscess, seemingly caused by a badly decayed right lower second molar. A large quantity of pus was drained off and the roots of the tooth removed two days later. The swelling of the gums disappeared shortly afterwards and the patient had no trouble until six weeks later. The patient showed at this time a condition similar to that when first seen, except for the absence of pus. I cut a considerable portion of the gum from the enlarged jaw and packed in borated gauze, expecting to find a third root, but in this I was disappointed. The opening I made relieved

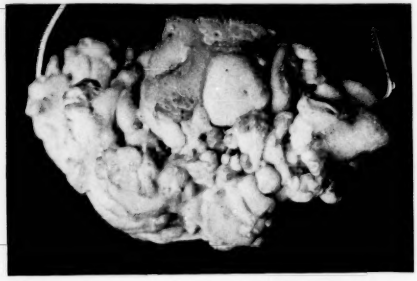

Fig. 1.—Composite odontome.

the patient of pain, but the enlargement gradually increased in size and extended buccally and distally. Two weeks after the incision in the gum was made patient returned with an acute inflammation of the part." When I first saw the patient the condition was as above described by Dr. Leininger. On probing with a sharp-pointed explorer I made out a hard, rough body, which gave the characteristic sensation received when tooth tissues are touched by an instrument. The body was too rough and large to indicate a tooth. The appearance of the gum and the discharge of pus, which was now present,

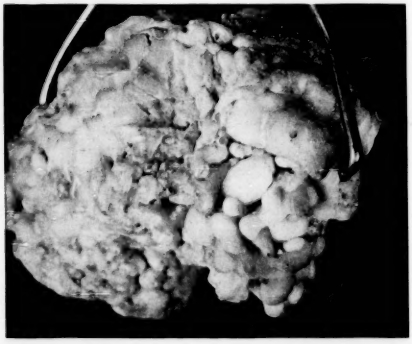

Fig. 2.—Reverse side of odontome shown in Figure 1.

indicated necrosis of bone, but the sensation communicated by the explorer clearly contradicted it. I at once concluded that an odontome was present. The first molar was in place, but loose from absorption of its roots, so was removed. The second molar had been removed by Dr. Leininger and the third molar was not yet erupted. The jaw was much enlarged buccally and lingually. I made an incision antero-posteriorly and raised flaps of gums on both sides, exposing the jaw and a portion of the growth to view. The overlying process was cut away. I found most of the bone absorbed on the buccal aspect of the jaw and but little left on the lingual surface. With drills and cross-cut fissure burs I cut away the bone on the buccal side of the growth and also a part of that left on the lingual aspect, when the tumor, with some difficulty, was pried from its bed and removed, after which I found posteriorly at the bottom of the cavity the third molar, seemingly perfectly developed. This odontome is the most remarkable one I have ever seen. It is composed of diminutive teeth (Fig. 3), more or less perfectly developed, of the incisor, cuspid and bicuspid types, with large numbers of denticles and enamel drops cemented together within this oblong, crescentic mass. This odontome measures antero-posteriorly 34 mm., bucco-lingually 18 mm., and from above downward 19 mm.

CASE 2.—Figure 4 shows an odontome removed by me from the upper jaw of a patient aged 20. All the teeth were in

Fig. 3.

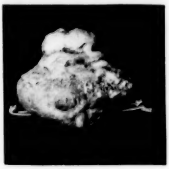

Fig. 5.

Fig. 3.—Diminutive tooth from odontome shown in Figure 1 magnified.
Fig. 5.—Odontome from lower jaw of woman aged 22.

place except the second molar. The first molar was loose from absorption of the roots, caused by pressure of the odontome. The patient was quite sure that very recently he had had the second molar removed, but I saw no positive indication of this. This is the only one of my three cases in which I lack posi-

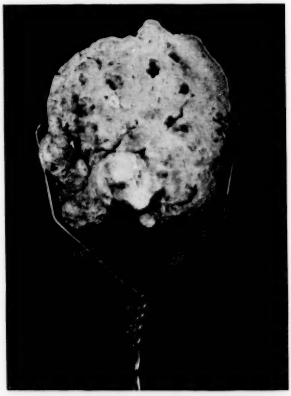

Fig. 4.—Composite odontome which microscopically shows no tooth formation.

tive evidence of the presence of the three molars, as well as all of the normal set of teeth on the side of the jaw in which the odontome was found. This case was sent to my clinic by a practitioner for an operation for necrosis, the odontome having been mistaken for a sequestrum of bone, which was not surprising, since the body had the characteristic brown color of necrosed bone, and there was much swelling and a flow of pus. On probing the mass with a sharp steel instrument, I readily discovered that I was not dealing with dead

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bone, but with tooth tissues, so made diagnosis of an odontome. The jaw was much expanded buccally and somewhat lingually, causing considerable disfigurement of the face. The loose first molar was removed and the growth removed, but not until much bone was cut from about it. Above and posterior to the growth, in the socket from which it was removed, was found the third molar, perfectly formed. This growth is spherical in form, with an irregular surface, caused by the protuberances. It measures in its greatest diameter 28 mm. and in its least 22 mm. It differs from No. 1 in that there are no definite tooth forms visible, but enamel, dentin and

Fig. 6.

Fig. 7.

Fig. 6.—Odontome with structure similar to those shown in Figures 4 and 5.
Fig. 7.—Odontome of which history is given in Case 5.

cement irregularly placed; therefore it belongs to the third class.

CASE 3.—Figure 5 shows an odontome from the lower jaw of a young woman aged 22. She consulted me for an enlargement of the left side of the mandible. The bone was much distended bucco-lingually in the region of the first and

Fig. 8.—Odontome from which sections shown in Figures 9 and 10 were cut.

second molars. These teeth were quite loose and a small amount of pus was discharging at the gingival border of the gums about them. The enlargement had first been noticed two years before she visited me. At no time had there been pain, but for several months past there had been soreness of the teeth and gums overlying the growth. On passing a sharp steel probe in the interproximal space I discovered a hard substance which was rough and too dense to be bone; diagnosis, odontome. I removed the loose teeth and found their roots almost wholly absorbed. I cut the process away and removed the odontome which measured in its greatest diameter (anterior to posterior) 25.2 mm.; above downward 22.4 mm.; labially-buccally 18.4 mm.

CASE 4.—This odontome (Fig. 6) was removed by Dr. Herbert A. Potts of Chicago from the lower jaw of an 18-year-old girl in the clinic of Geheimrat A. Bier, Bonn, Germany. The patient had noticed a swelling and soreness of right side of jaw three years before; this was followed by discharge of pus into the mouth with exposure of a hard, irregular mass in the region of second molar, right side. Pus continued to discharge around this mass. The clinical diagnosis was necrosis of jaw with large sequestrum. Extensive operation from without was proposed. Closer examination by Dr. H. A. Potts revealed small nodules of enamel on the tumor and a corrected diagnosis of odontome was made. A small incision was made within the mouth. This allowed the tumor to be lifted out. Decalcification and microscopic section confirmed the diagnosis of composite odontome. The patient made an uninterrupted recovery.

CASE 5.—This odontome (Fig. 7) and history was given to me by Dr. Victor H. Fuqua. "Miss Mary M., aged 19, came

Fig. 9.—Section cut from odontome shown in Figure 8.

under my observation Feb. 14, 1903. Examination disclosed swelling of the left cheek. There was an offensive discharge from the nostril. On examination of the teeth was found what I suppose was the buccal roots of the first molar (the second molar evidently having been lost, or never having erupted). This tooth being very loose, I attempted to extract it, but was unable to do so. Nitrous oxid was then administered, the gum cut away freely, and the flaps laid back, disclosing a dense movable body, which, with difficulty, I removed with the forceps, exposing the floor of the antrum of Highmore. The antrum was cleansed, irrigated and packed with iodoform gauze. Recovery was rapid and complete. Since the removal of this odontome, the third molar has erupted."

CASE 6.—Figure 8 shows another of the third class. This case was reported by Dr. Black to the Illinois State Dental Society in 1879. It is a somewhat smaller growth, measuring 24 mm. from before backward, 20 mm. from side to side, and

14 mm. from above downward. From sections of the tumor Dr. F. B. Noyes has made photomicrographs, which show most beautifully and perfectly the characteristic composition of this class of odontomes. In the report to the Illinois Society Dr. Black said of the histologic appearance of the sections: "For the purpose of examining its structure I sawed it through, halving it in an antero-postero-perpendicular direction, and cut some sections. I found all the tissues of a normally developed tooth, but in a state of confusion (Figs. 9 and 10). There is an entire absence of any proper pulp cavity. The disposition or arrangement of the tissues is peculiar and striking. It is as though there were a thousand teeth, exceedingly minute, growing as close together as they could be crowded, and the interstices between them filled up with enamel and cement. In the field of the microscope, with the sections I have, we shall often be able to see a number of these diminutive teeth at a single view. Each has its own little pulp chamber in due form, its own separate dentin

Fig. 10.—Section from odontome shown in Figure 8.

and its own enamel cap, and plastered in and about and added on to these there is a considerable amount of both enamel and cement of very irregular formation. Many of the pulp chambers are partially filled with calcospherites. These also appear in many parts of the specimen in profusion. It is interesting to note the resemblance of this odontome to the normal structure of the teeth of some of the lower orders of animals, especially some species of fishes, in which there are branching and radiating pulp cavities."

31 Washington Street.

ABSTRACT OF DISCUSSION

DR. M. H. FLETCHER, Cincinnati: I have never seen such large odontomas as Dr. Gilmer has shown without attachments. It only indicates what Nature will do when she is stimulated to action. This conglomerate mass is simply an instance of Nature's attempt to produce a new organ, as is shown in any new growth, such as carcinoma, sarcoma and various epitheliomas, which are proliferations, in a sense, of the tissue from which they arise. They grow to a size which becomes pathologic. In the case of the odontoma you do not have the bad results that often occur with malignant growths. At the same time we have evidence of tissue stimulation resulting in dentine, enamel, and cementum many times resulting badly. On the other hand, surgeons often are able to utilize Nature's method of procedure to the end of saving life. I expect to show in a paper at this meeting the reproduction of cement on the root of a tooth to a remarkable degree. Among others I shall show a section of an odontoma that I found twenty-five years ago, which shows what stimulation of any reproductive tissue will do.

DR. FREDERICK NOYES, Chicago: I want to say a word about the histologic structure of these tumors and compare the different kinds that have come under my observation. Some are very loosely put together. There are hundreds of teeth that can be seen on the surface with the unaided eye, and a great many of those wash out with the soft tissues attached to the tumor and are lost in the preparation of the specimen. That one little tooth shown was one saved out of the sink in which the washing occurred, and on it the distribution of dentine, cementum and enamel is apparently normal. In other specimens you cannot distinguish a tooth at all, but you can see little globules of enamel on the surface and portions can be recognized as dentine and cementum. But when the section is cut, ground and examined, there are different canals from which the tubules radiate, and the adjoining teeth are fastened together by cementum. The whole structure is made up of individual teeth of one form or another, fastened together by a greater or less amount of cementum. I have never seen a specimen fixed and decalcified to show the cellular elements. I should be much interested to see one. If a piece could be cut out at once, decalcified and cut so as to determine the relation of the soft tissues to the hard it would be very valuable.

DR. JAMES E. POWER, Providence, R. I.: I should like Dr. Gilmer to go into the clinical manifestations. What causes the patient first to seek relief? How much pain is connected with this condition, especially the odontoma that he reported? Was it surrounded by an alveolar process, and how much lymphatic involvement is connected with that condition? Also, especially in the lower jaw, how much loss of function was there, and what are the principal facts which would enable a clinician to make the diagnosis? What would first bring the patient to the specialist's office? There are some tumors that will develop to a large size without giving the patient much pain, and I am trying to find out whether or not the odontoma is in that class, or whether it is a chronic inflammatory process, without marked symptoms.

DR. EUGENE TALBOT, Chicago: More than thirty years ago it occurred to me that there must be a law governing these conditions, just as there are other laws governing disease, etc. I have given considerable study during the last thirty years to the etiology of these obscure diseases of the face and jaws, and I have tried to lay out a law governing their pathologic development. Here we have a splendid illustration of two conditions in the development of man which must be taken into consideration, first in the arrest of development or shortening of the jaw in phylogeny from the lower vertebrates such as fish, reptiles, etc. In these animals we have, of course, long jaws with a large number of teeth; sometimes as many as three or four hundred, and as we ascend the scale in evolution the number of teeth grows smaller and smaller. In the toothed birds we have sometimes 170, but as we ascend the scale they diminish in number. On the other hand, the human jaw has grown much smaller, and is still growing smaller. I have found many of these conditions are what might be called arrest in phylogeny, and this arrest takes place at the first uterine period of stress, when the tissues are forming. Arrest takes place owing to some condition of the mother in which the reproductive organs become tired out, and this produces arrest at phylogenetic stages, and so here we see in this epithelial cord these bodies that remain throughout life. We find in the human being, in sheep, and in many other lower animals this large collection of teeth as a result of arrest in phylogeny. There may be two or three hundred, or no more than two or three teeth.

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DR. T. L. GILMER, Chicago: I was aware that this was not a subject that would call forth much discussion, but think it one that interests most of us. It is well to have as many of these cases reported as possible that we may become more familiar with them.

I will answer by saying that in all of my cases there was inflammation and pain of greater or less degree in the area involved. The soft tissues overlying have not had the appearance of those overlying necrosed bone. They are more like those accompanying chronic alveolar abscess. There is no great thickening, or hardening of the soft parts. One patient came for two reasons—first, cosmetic considerations; the face was distended in the side affected, and second, the teeth whose roots had been absorbed were loose, and there was more or less discomfort, pain and discharge of pus. I have not found lymphatic involvement. No great amount of pus is absorbed, therefore the lymphatics are not appreciably enlarged. As to loss of function, I suppose Dr. Power had reference to loss of function of the jaw. The diseased area is more localized, with much less inflammation than is found accompanying severe, acute alveolar abscesses or with impacted third molars.

In none of my cases was there trismus. Sensation of the teeth or surrounding parts has not been destroyed. I have never seen a case prior to the inflammatory stage. The jaw was enlarged. Mention has been made of the slide showing what I denominated a tumor on the tooth root, in differentiation between it and an odontoma. It seems to me that an odontoma is a tumor made up of tooth substance or small teeth indiscriminately placed, while this specimen is clearly a tumor on the root of the tooth, or we might call it a malformed tooth. It appears to me as though there had been extrusion of a part of the tooth during development.

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INFECTIONS OF THE ENDOMETRIUM *

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All that is attempted in this paper is to describe the reactions of the various cells of the endometrium to infection. It is based on the study of a large number of endometriums known to be infected. From these a few have been selected to illustrate the typical cell changes. No distinction is made between the results of the various infecting organisms. No attempt is made at a classification.

Up to the present time, writers undertaking to describe the pathologic changes in the endometrium due to infection have constantly confused them with the physiologic changes that take place during the menstrual cycle. As these physiologic changes have been recognized too recently for the profession in general to be familiar with them, it is necessary to review briefly the histology of the normal endometrium before taking up the changes that are found as the result of infection.

NORMAL HISTOLOGY

The surface of the normal endometrium is covered with a single layer of low columnar epithelium. The glands are tubular and lined by the same variety of epithelium as is found on the surface. Between the glands are the oval stroma cells that make up the mass of the tissue. They are supported by a fine net-work of connective tissue and interspersed with a few round or lymphoid cells.

Just after menstruation the glands of the endometrium are collapsed, straight and narrow; the epithelium is low, regular, in a single layer, and the nucleus takes the stain evenly and deeply. The stroma cells are regular, oval in shape and stain well. Just around the glands are a few spindle-cells. Scattered through the stroma are a few small, round cells that stain very deeply. Occasionally a group of lymphoid cells are seen. These groups can be easily recognized by the compactness and regularity of the outline of the boundary of each group. Before attempting to recognize the results of infection in the endometrium, it is absolutely essential for the observer to familiarize himself with these scattered, round cells and the groups of lymphoid cells. Individually they cannot be distinguished from the small, round cells that appear in such great numbers as a result of infection. It is a case of distinguishing between a corporal's guard and an army.

Just before menstruation the glands are found distended with mucus and very irregular in outline; but there is a certain amount of uniformity in the irregularity seen in the glands, that is, all the glands in the same portion of the endometrium have a similar appearance. A part of the irregularity is only apparent and not actual, and is due to the swelling of the epithelium lining the glands and its projection in tufts into the caliber of the glands. The stroma cells are enlarged, more rounded and take the stain less deeply. This change in the stroma-cells is more marked in the superficial portion of the endometrium. There is some, though no very great, increase in the round cells in the stroma.

Fig. 1.—Section 874; M. E., aged 25, admitted to the hospital June 25, 1909; had had two miscarriages, the last one year ago. Last menses began June 14 and flowed ten days, bleeding very freely. She complained on admission of menorrhagia, profuse vaginal discharge, frequent micturition and pelvic pain. There was present an acute salpingitis. This field shows: *a*, an exudate over the superficial epithelium; *b*, superficial epithelium disintegrating; *c*, masses of round cells in the stroma.

In the interval there is a gradual change from the postmenstrual to the premenstrual type.

PATHOLOGIC HISTOLOGY

The changes due to infection are noted in the superficial epithelium, in the stroma and in the glands.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Superficial Epithelium.—Under the influence of infection the superficial epithelium undergoes marked changes. The nuclei increase in size, become rounded, take less stain and present a granular appearance (Figs. 2 and 3). The cytoplasm disappears. A portion of the cells break down and disappear (Fig. 3). Round cells penetrate the epithelial layer and are lost in the uterine cavity (Fig. 2). A fibrinous exudate

Fig. 2.—Section 836a, J. W., aged 20, admitted to the hospital May 5, 1909; had a miscarriage August, 1908. Last menses began April 20, and flowed thirteen days; since miscarriage the flow has recurred at regular intervals but has continued from ten to thirteen days. Patient had pelvic pain since August, 1908. Operation, May 7, 1909; curettement, infected tubes removed and uterus suspended. Infection probably dates from the time of the miscarriage. The field of illustration shows: *a*, round cells penetrating the superficial epithelium; *b*, round cells in the stroma; *c*, round cells penetrating the gland epithelium; *d*, round cells free in the lumen of the gland; *e*, the superficial epithelium has lost its columnar form, is rounded and swollen; *f*, the stroma cells are enlarged, rounded and approach the decidual type; *g*, the gland epithelium has lost its distinct shape and is beginning to disintegrate.

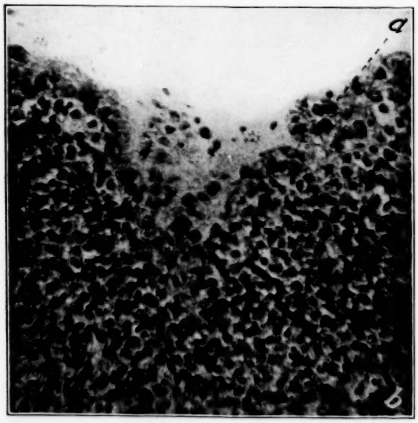

Fig. 3.—Section 836a (See clinical note to Fig. 2). This picture is from another field in the same section from which Figure 2 was made. It shows: *a*, the superficial epithelium is swollen and is breaking down; *b*, many round cells infiltrated among the enlarged stroma cells. The changes noted in these two figures were most marked in the superficial portion of the endometrium. In the deeper layers there was a very marked increase in the round-cell infiltration, but the glands were not materially affected.

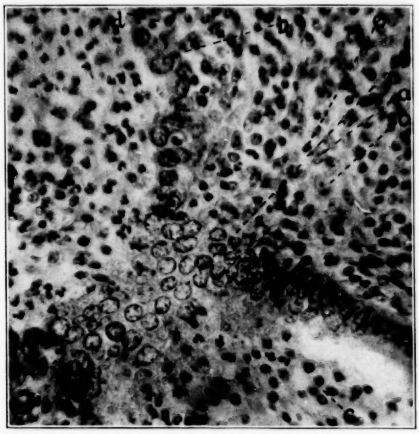

Fig. 4.—Section 872a; D. B., aged 36, admitted to the hospital June 19, 1909. Last pregnancy terminated at full term three years ago. Last menses two weeks ago, flowed seven days and very painful. Patient complains of pelvic pain and uterine hemorrhage; temperature after admission ranged from 99.5 to 101. Operation June 25, 1909; body of uterus and appendages removed. The tubes showed acute infection with much pus. This field shows: *a*, enlarged rounded stroma cells; *b*, enlarged and rounded gland epithelial cells; *c*, gland filled with round cells, leukocytes and broken-down epithelium; *d*, round cells penetrating the gland epithelium; *e*, round cells in the stroma.

Fig. 5.—Section 431; J. E. M., aged 48, admitted to the hospital September, 1906. This patient was curetted in July, 1905, for the relief of a menorrhagia and leukorrhea that had persisted two years. The section from which the illustration was made is from the scrapings removed in September, 1906. The uterus at that time was not enlarged, was freely movable, and in normal position; the tubes and ovaries were normal. This field shows: *a*, gland filled with round cells and leukocytes; *b*, gland epithelium broken and round cells pouring into the lumen of the gland; *c*, masses of round cells in the stroma; *d*, irregular-shaped, dilated gland; *e*, heavy type of gland epithelium.

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is occasionally observed, poured out over the epithelium (Fig. 1).

Stroma.—In the acute cases the first thing that strikes the observer is the extraordinary number of small, darkly staining round cells present. They cannot be distinguished individually from the same sort of cells that are present normally in the endometrium, but, instead of being scattered here and there, or collected in groups with definite outlines, they are diffused in great numbers throughout large areas (Figs. 1, 2, 3, 4, 5).

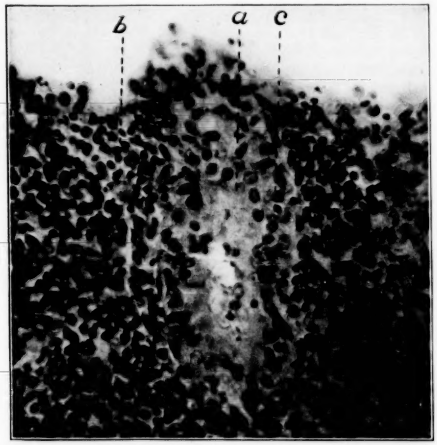

Fig. 6.—Section 846b; G. K., aged 30; admitted to the hospital May 13, 1909. Last menses began April 25, flowed seven days, regular, duration seven or eight days; leukorrhea for the past year; pelvic pain for the past five years, but suddenly increased two weeks ago. Operation May 18; supravaginal hysterectomy for infected uterus and appendages. Pus in both tubes and ovaries infected. The field here pictured shows the process of gland destruction: *a*, lumen of gland filled with disintegrating epithelium; *b*, round cells massed just outside of the gland; *c*, gland epithelium so modified that it can be recognized as such only by its position.

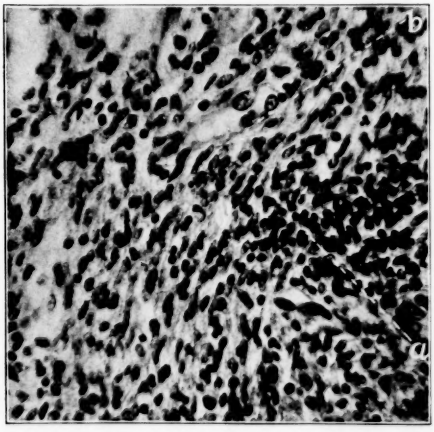

Fig. 7.—Section 846b. (For clinical notes see Fig. 6). This field shows: *a*, masses of round cells in the stroma; *b*, nearly all the stroma-cells have become spindle-shaped. These two fields from the same section show in the superficial layer (Fig. 6) a process that we recognize as an acute or recent one, while at about the middle of the depth of the endometrium (Fig. 7) are changes that are due to an older process. It is interesting to note that the clinical history indicates both a recent and an old infection.

Fig. 8.—Section 662b; B. K., aged 29. Last pregnancy ended at full term seven years ago; last menses Jan. 18, 1908, scanty, irregular and painful. Patient had symptoms of an infection six years ago; cystitis three years ago. Operation Feb. 14, 1908; supravaginal hysterectomy for infected uterus and appendages. This field shows: *a*, glands in the upper layer of the endometrium, numerous, small and irregular in outline; *b*, glands in the deeper portion of the endometrium much dilated; *c*, gland epithelium consists of a single layer and much lower than usual; *d*, gland epithelium is tufted as it is in the glands of the premenstrual endometrium. Under a higher magnification the stroma is seen to be made up largely of spindle-cells interspersed with a few round cells.

Fig. 9.—Section 688b; E. D., aged 27. One child born four years ago; last menses April 4, 1908, regular, flows three to five days, very painful. Patient has had pelvic pain, leukorrhea, dysmenorrhea and burning micturition since labor four years ago. Operation April 10, 1908; supravaginal hysterectomy for infected uterus and appendages. The tubes were full of pus. This field shows: *a*, glands in the superficial part of the endometrium contracted or absent; *b*, glands in the deeper part much dilated.

The first change that is noted in the stroma-cells is an increase in their size; they take the stain less deeply and have the appearance of the decidua-like cells so frequently seen in the premenstrual endometrium or under any condition of increased vascularity (Figs. 2, 4). As the process continues the stroma-cells elongate and become spindle-shaped. Among these spindle-cells are seen not so many round cells as in the beginning of the infection, but many more than normal (Fig. 7). If the infection continues these spindle-cells ultimately assume a fibroblastic type (Figs. 10, 11). In all cases these changes in the type of the stroma-cells are most marked at first in the superficial portion of the endometrium, but if the infection continues the entire thickness of the mucosa becomes involved.

In many instances plasma-cells can be seen, but they are so difficult to distinguish from a round cell lying over a stroma-cell that it is not thought advisable to lay much stress on their presence.

Glands.—The changes in the glands include the changes in the epithelium, changes in the gland contents and changes in the number, shape and caliber of the glands.

The gland epithelium undergoes practically the same changes as have already been noted in the superficial epithelium, except that in the glands the process is much more frequently carried to the complete destruction of the epithelium and the consequent destruction of that part of the gland or glands involved (Figs. 6, 11, 12). Not infrequently epithelial cells will be seen which can be recognized as such by their relation to each other, but which taken individually cannot be distinguished from the modified stroma cells (decidua-like cells) found in the same field (Fig. 4).

In many instances the glands become filled up with round cells, leukocytes and broken-down epithelium. The round cells and the leukocytes get into the gland either by penetrating the unbroken epithelium or by the local breaking down of the epithelium, allowing them to pour in (Figs. 4 and 5). This filling up of the glands does not take place in all of the glands of any infected endometrium, but when it is present it may be seen in from three to a dozen glands in a section. The migration of the round cells and leukocytes through the super-

Fig. 10.—This is a higher magnification of the section shown in Figure 9. The field is about half way between the muscularis and the surface of the endometrium. There is an absence of cells that even resemble the normal stroma cells.

Fig. 11.—Section 799a: A. C., aged 47; admitted to the hospital Feb. 10, 1909. Last pregnancy terminated in a miscarriage eighteen years ago; last menses began January 7, and flowed sixteen days; up to three years ago menses were regular and the flow lasted seven or eight days, since then the periods have been irregular, painful and profuse. Operation Feb. 11, 1909; supravaginal hysterectomy. Associated lesions; uterine myoma, infected uterine wall, pyosalpinx, adenocystoma of the ovary. This field shows: *a*, superficial epithelium intact; *b*, almost entire absence of glands and the stroma cells are replaced by connective tissue; *c*, numerous blood-vessels. The remains of the endometrium is much thinner than the normal endometrium.

Fig. 12.—Section 680c: M. C., aged 49; last menses four years ago. First began to feel discomfort about one month before operation. This patient had an adenocarcinoma of the cervix that produced a complete atresia. The body of the uterus was larger than a man's fist and distended with pus. The section is shown to illustrate what happens to an endometrium in a pyometra; *a*, thinned out superficial epithelium; *b*, the remains of a gland; *c*, all this area is densely infiltrated with round cells which are also present in large numbers in the muscularis; very few glands remain.

In many instances the glands become filled up with round cells, leukocytes and broken-down epithelium. The round cells and the leukocytes get into the gland either by penetrating the unbroken epithelium or by the local breaking down of the epithelium, allowing them to pour in (Figs. 4 and 5). This filling up of the glands does not take place in all of the glands of any infected endometrium, but when it is present it may be seen in from three to a dozen glands in a section. The migration of the round cells and leukocytes through the super-

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ficial and gland epithelium is undoubtedly the source of the intermenstrual discharge which has so long been recognized clinically as one of the signs of infection of the endometrium.

The foregoing are the marked changes that are noted as taking place during the time that the cells of the endometrium are subject to the influence of an infection. There are, no doubt, some patients who recover so completely that no trace of the past infection remains. On the other hand, in the group of cases studied in the course of the preparation of this paper it was found that in every case in which the clinical history and local lesions pointed to an infection, either existent or preexistent, there was some recognizable lesion in the endometrium. These secondary results no doubt vary with the severity of the past infection and are not perfectly constant, but some of a very few conditions are practically always present.

The superficial epithelium, even where it has been partially destroyed, apparently is reproduced and is present as a continuous single layer (Fig. 11). In the stroma the round cells decrease to their proper proportion and the stroma-cells return to their normal ovoid shape and size, or retain a spindle shape, or assume the fibroblastic type. The glands in the upper half of the endometrium are found to be either numerous, small and angular (Fig. 8), or much fewer than normal (Fig. 9). The glands of the deeper part are frequently much dilated (Figs. 8, 9). This dilatation is quite different from the dilatation of the glands in the premenstrual endometrium. In the endometrium, after infection, the dilatation is apparently due to retention from destruction of the portions of the glands passing through the superficial part of the endometrium. The lining epithelium of these distended glands is usually thinned out by compression. In other instances the infection has been so severe that all, or nearly all, of the glands have been destroyed (Figs. 11, 12).

From this study of endometriums known to be infected we are in a position to say, with a reasonable degree of accuracy, that an endometrium under examination either is infected or that it is not infected; and usually, if there is no evidence of a present infection, whether it has been infected.

It is useless to attempt a classification of the results of infection, because it is possible to find all stages of the reaction to infection in the same endometrium.

6 West Preston Street.

ABSTRACT OF DISCUSSION

DR. EMIL NOVAK, Baltimore: That the endometrium reacts toward acute infection in much the same way as does any other tissue cannot be impressed too strongly. A more interesting and difficult problem is that of chronic infection of the endometrium and of chronic endometritis. If we assume that the endometrium reacts in the same way to a chronic process as do other structures we would expect to find in such cases a certain number of small round cells, perhaps fibroblasts, etc.

The next question is, are all cases with these findings to be classed as chronic endometritis, or, to make it even broader, are all to be considered as chronic infections? We must bear in mind that we often find fibroses of the endometrium in conditions which are probably not of an infectious nature, as, for example, after prolonged passive hyperemia. Whether or not fibroid changes in the endometrium are to be called chronic endometritis is therefore often a difficult question. I do not think we can tell in every case. It is much the same problem as if an individual is found dead on the street. One cannot tell whether he died of apoplexy, of heart disease, or of something else. We see the result, but we do not know what brought it about. So, whether there has been merely a prolonged hyperemia or an actual infection, the terminal condition in the endometrium is apt to be the same.

Another interesting question in this connection is that of the avenues of infection of the adnexa in cases of general pelvic infection. Formerly it was believed that in many tubal infections the process reached the tube through the lymphatics rather than by direct continuity. It seems to me that this paper throws light on this subject. If it can be shown, as seems to have been done, that in practically every case of tubal infection in which the endometrium was examined microscopically evidences of infection were found, it would seem that the infection must have traveled to the tube by way of the endometrium.

PERFORATION OF UTERUS AND TRANSFIXION OF CONTIGUOUS MESENTERY AND PERITONEUM BY BONE CROCHET NEEDLE

OPERATION AND RECOVERY

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History.—A married woman residing in a neighboring town, under the impression that she was very much in need of a monthly regulator, one evening on retiring passed into the uterus a bone crochet needle, the sharp end first, from which she had previously filed the hook-like projection. This important duty performed, she went peacefully to sleep. The next morning when she made search for the regulating apparatus it was not to be found. A hurried but careful search of the bed and the room failed to show the missing article. In spite of the fact that she felt no pain at any time after inserting the needle she was somewhat concerned as to what had happened to the instrument as well as to herself. After a few hours of disturbance of mind, she called in the family physician, who made a careful examination but had no better success in finding the needle than had his patient. The patient did not at this time, nor afterward, give any sign of having punctured the uterus. Only her tearful protestations that by no possibility could the instrument have passed away persuaded her physician that it must be somewhere in her internal economy.

Examination.—In order to satisfy himself and the patient, counsel was called and under anesthesia the uterus was dilated and explored but without result, either so far as finding the missing needle was concerned, or, incidentally, any signs of conception. The day afterward she was brought by train some 90 miles to my office for examination. Her condition at this time was, temperature 99, pulse 90, slight discharge from the uterus, marked tenderness on pressure and constant soreness, but no rigidity, over the left pelvic region. On the theory that, if the article was in the abdominal or pelvic cavity, being of bone it should cast a shadow in an *x*-ray picture, a radiograph was made. The patient's weight being 120 pounds, an 8-inch W-H tube was used, with penetration No. 7 plus, giving an exposure of two minutes, using a 12-inch coil as the exciting agent. The bowels had not moved for over twenty-four hours and owing to the presence of fecal matter the resulting radiograph was not satisfactory. The bowels were accordingly cleaned out with heavy doses of salts, followed the next morning by a high enema. At this time a two-minute exposure was given, using a 7-inch Friedlander tube with penetration No. 8, with the result that the bone implement was found transfixing the mesentery and peritoneum, with the middle of the needle approximately opposite the crest of the ileum, its depth in the pelvic cavity being of course a matter of conjecture.

As neither fever nor other serious symptoms had developed at this time, four days after the passage of the instrument, it was not deemed necessary to be in any great

hurry to remove it, and the patient preferring to have the operation at her residence instead of at the hospital, she was sent home accompanied by a nurse.

Operation.—On the second day afterward she was operated on by a median abdominal incision. Immediately after opening the abdomen the needle was found as described above. It was removed, no hemorrhage following, by being grasped by the blunt end next the uterus and drawn downward. Examination of the uterus showed a punctured wound directly in the fundus, as near the center as it could possibly have been made. Two No. 1 iodin-catgut sutures were taken in the uterus to close this rent, and the abdomen closed with layers of catgut sutures. Convalescence was uneventful.

I am led to report this case because I believe it to be unique in several particulars:

First, the passage of such an instrument as is here shown through the uterus and the adjacent mesentery and peritoneum without producing pain, shock, hemorrhage or infection seems worthy of note.

Second, perforations of the uterus by instruments, even in skilled hands, is not a rare occurrence, but its perforation and the passage of the instrument through the uterus into the peritoneal cavity must certainly be.

Third, the case demonstrates the utility of the radiograph in clearing up what would have been, in the absence of subjective and objective symptoms, a puzzling case as to the proper method of procedure.

A CHRONIC ITCHING PAPULAR ERUPTION OF THE AXILLA, PUBES AND BREAST *

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Dr. George Henry Fox,[1] in 1902, described a peculiarly localized papular eruption in the axilla which was extremely itchy and resisted all treatment. In the same article Dr. Fordyce reported the histologic findings in Dr. Fox's case, but at this time no attempt was made by either to classify the condition.

In a subsequent article[2] before the thirty-second annual meeting of the American Dermatological Society in 1908, Dr. Fordyce called attention to the lack of weight given by the American dermatologists to a group of skin diseases classed by Dr. Brocq under the term "lichenification," reported more in detail, both clinically and histologically, an additional case, and tentatively classed it among those eruptions to which Brocq has given the name *nevrodermite chronique circonscrite*.

In reviewing this article, Dr. Colcott Fox,[3] after complimenting the author on his work, says: "We think many will hesitate to pronounce the condition a lichenification, as we know that state in this country."

It would seem from this that the British dermatologists, of whom Dr. Colcott Fox is one of the most painstaking clinicians and histologists, were as derelict as their American confrères in recognizing this identification of a class of skin diseases that assisted much in the simplification of the nomenclature of dermatology.

But Dr. Fordyce's classification has found a better reception in circles equally interested and no less critical, as I have seen a personal letter from Dr. Brocq to Dr. Fordyce, in which he entirely agrees with the latter that the affection in question is a lichenification and states that he has seen numerous similar cases in his practice. I have had under my observation for the past two years a case that is a clinical prototype of those reported by Drs. Fox and Fordyce.

History.—The patient is a young woman, aged 21, anemic and decidedly neurotic. Her family history is unimportant, her father having died at thirty-eight years of age of pneumonia. One brother died recently of pulmonary tuberculosis. Her mother, three sisters and two brothers are all in good health. Her past history is interesting in that she has had three distinct, severe attacks of hemoglobinuric fever at 12, 14 and 16 years of age. At 15 she contracted scabies, which lasted four or five weeks. From 14 to 17 years of age she suffered severely with periodical headaches, and the menses were not established until the latter year, and then appeared only at irregular intervals. The disease for which she consulted me began at 17 years of age while attending school, as an intense itching in the axillæ. In three or four weeks the papules appeared, and she then noticed that the hairs in that region became brittle, and as she expressed it, "dropped off." The pubes became affected four months later in a similar manner, and not until a year later did the breasts become involved.

Fig. 1.—Papular eruption in axilla.

Examination.—When she came under my care, the disease was limited to the hairy portion of the axillæ and pubes, and about the nipples of the breasts. In the axillæ and over the pubes the eruption consisted of closely aggregated, round, smooth, firm papules, in size from a pin-head to a small pea, those in the pubic region being somewhat larger than in the axillæ. At the apex of each papule was a slight depression or a grayish plug. When the skin was put on a stretch the lines were markedly exaggerated, the papules occupying the ridge (Fig. 1). The color over the region affected was normal, or a pale pink. The lesions on the breasts were more discrete, there being not more than a dozen papules on either breast. These were deeper in color and about the size of a large pin-head. Alopecia was complete in the axilla and over the pubes. The itching was almost intolerable, frequently depriving the patient of sleep, and at times she would lose control of herself to the extent of having to be forcibly restrained by two of her sisters. It was always worse at night, and during and after any excitement, either pleasurable or otherwise. Re-

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Jour. Cutan. and Gen. Urin. Dis., January, 1902.
2. Am. Dermat. Soc., 1908, p. 118.
3. Brit. Jour. of Dermat., xxi, 269.

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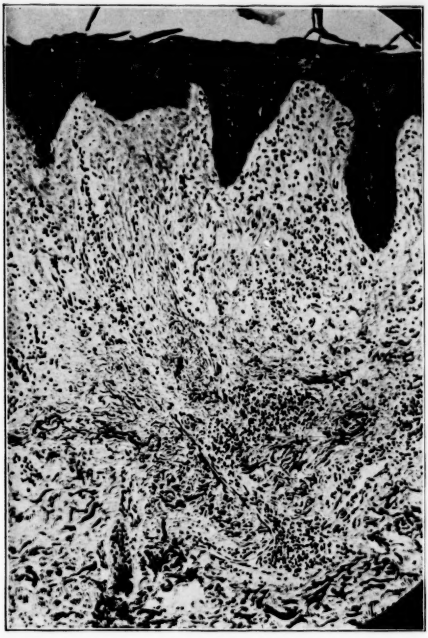

Fig. 2.—Edema of papillary layer of corium. Elastic fibers destroyed or so changed in character that they do not take characteristic stain.

Fig. 3.—Destruction of the epidermal cells with vesicle formation.

Fig. 4.—Epidermis showing hyperkeratosis, vacuole formation about nuclei and edema of the corium.

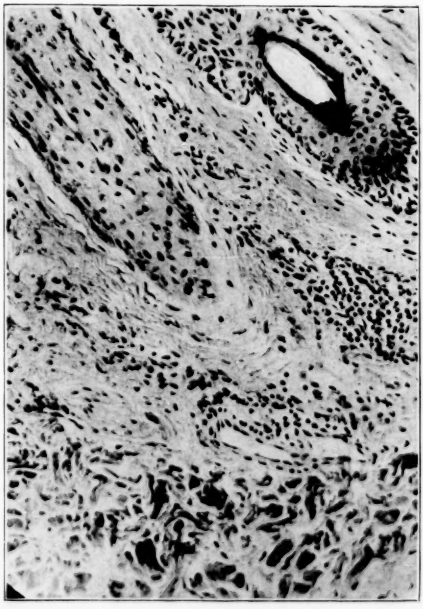

Fig. 5.—Hair follicle and epidermal projection enclosing sweat-duct with degeneration of cells. Cellular infiltration in foci in corium.

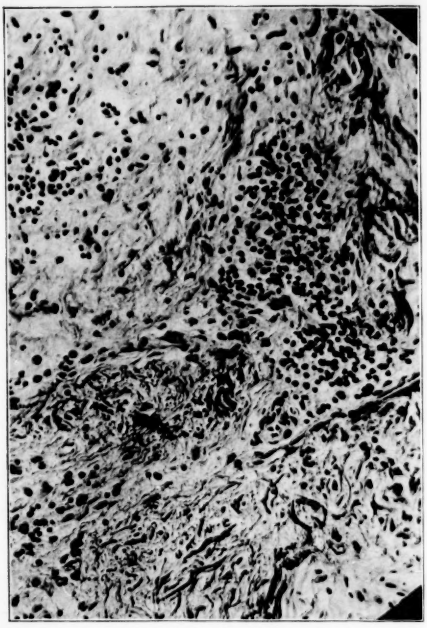

Fig. 6.—Character of cell infiltration in corium.

Fig. 7.—Hyaline degeneration of small artery in corium.

Fig. 8.—Degeneration of lining cells and dilatation of glands with adjacent apparently uninjured glands.

Fig. 9.—Dilatation of sweat glands showing partial casts. In two of the gland acini are concretions or bodies mentioned in text.

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peated thorough examinations revealed no constitutional disturbance, blood and urine being negative.

Treatment.—Treatment in my case proved even less successful than in those previously reported. She was given innumerable antipruritics, with only temporary relief. Resorcin, pyrogallic acid, chrysarobin, and various tars, in increasing strength, were used, with no better results. The *x*-ray was very positively refused, but high-frequency currents were applied for over four weeks. Saline cathartics were administered for more than a month, as were salicin and phenyl salicylate, in increasing doses. In October, 1908, after she had been under my care for five months, the patient's condition became so deplorable that it was thought best to place her under the constant observation of nurses. For this purpose, she was sent to the Presbyterian Hospital, with a nurse in constant attendance. She was allowed from two to five hours outdoor exercise, all medication, both external and internal, having been stopped, except hot salt solutions applied to the diseased areas. Under this treatment she rested better, her mental condition improved and she gained some weight. When last seen, less than a month ago, the condition in the axilla and over the pubes showed little or no change. The papules were still present, the hair had not returned and the itching though less frequent was at times very annoying. The patient's mental condition had continued to improve, and she was devoting all her time to music and outdoor life. She still continued the use of the hot salt water packs.

Biopsy.—Sections made from a biopsy taken from the axillæ showed an extensive acanthosis, most marked about the sweat-duct, a dense hyperkeratosis at the mouth of the duct, in some instances extending deep into the duct proper. There was an extracellular and intracellular edema, with a shrinkage of the nuclei seen throughout the prickle cells, and in places small vesicles had formed. In the papillary and subpapillary layers of the corium, a marked degeneration and edema were found, and the elastic tissue in this region was so changed that it did not take the usual stains. An infiltration of lymphocytes and plasma cells was present in foci and about the vessels and sweat glands. A hyaline degeneration was seen in some of the arteries of the corium, with an atrophy of the nuclei of the wall, but by far the most marked change was the dilatation of the sweat-gland accompanied with a degeneration of the lining cells. In some of the tubules, there were partial casts, and in two there were found round concretions or bodies the nature of which is to me obscure.

The histologic picture in my case differed only in minor details from that reported by Dr. Fordyce; namely, the hyaline degeneration of the arteries and the changes in the staining quality of the elastic fibers.

In conclusion, it is apparent that Dr. Fordyce's contention is well grounded, and that as his conclusions are approved by Brocq, we may accept this peculiarly localized dermatosis as a lichenification, the etiology of which is still in doubt.

If one might hazard a guess at the cycle of histologic changes occurring in the development of the disease, I would suggest that the pathologic condition began in the sweat-glands, with a morbid change in the lining cells, followed by a destruction of the cells and a dilatation of the gland proper, and that all other changes demonstrated were secondary to this process, and due to the elimination of a toxin yet unknown.

Memphis Trust Building.

ABSTRACT OF DISCUSSION

DR. J. A. FORDYCE, New York: Through the kindness of Dr. George H. Fox of New York I saw a third case of this affection in which the eruption occurred in the identical localities, and I have had personal communications with other physicians who have described similar cases. These observations might lead one to think that we have at least a distinct clinical picture if not a definite entity. As supporting the toxic origin of such a condition, we see on other parts of the skin purplish thickened patches made up of papules which have run together and which occur in individuals who are suffering from some toxemia. This toxemia may result from the excessive use of tea, coffee, or alcohol, or possibly a combination of these agents, with intestinal fermentation. In the cases which occur on other parts of the body than the axillary or pubic region I have been unable to demonstrate changes in the sweat glands, but subsequent investigation may show them.

A REPORT OF SIX CASES OF SYPHILIS TREATED WITH SALVARSAN

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In selecting cases for experimentation with "606" an attempt was made to choose those with demonstrable lesions and those which would best represent the various stages of the disease, excepting the meta- and parasyphilitic conditions.

The list of cases includes one with primary lesion of tonsil, one with primary lesion of penis with secondary eruption, two with maculopapular secondaries, one with ulcerating secondaries of the tonsils and vocal cords, and one with gummatous lesion of forehead. Except in one instance, an alkaline solution of the drug was injected into the buttocks according to the technic developed by Lesser.[1] In this exception the same solution was injected intravenously, after being first diluted with distilled water to 200 c.c., according to Schreiber's method.[2]

Fig. 1.—Lesion in Case 6 before injection with salvarsan ("606").

The intragluteal injections gave very little pain at the time of administration except in one nervous individual. In every case the pain became quite severe within an hour after injection and in all but one case morphin was required to give relief. The pain was somewhat less the day following and the patients were able to leave their beds and to walk about, though with more or less difficulty on account of the soreness in the buttocks and pains radiating along the course of the great sciatic nerve. Local tenderness and induration developed and increased until about the fifth day, after

1. Described by Corbus, B. C.: The Value of Ehrlich's New Discovery, "606" (Dioxydiamidoarsenobenzol), THE JOURNAL A. M. A., Oct. 22, 1910, p. 1471.

2. Schreiber: Verhandl. a. d. 82 Versamml. Deutsch. Naturforscher u. Aerzte in Königsberg, Sept. 20, 1910; Deutsch. med. Wchnschr., 1910, No. 41, p. 1899.

which it gradually subsided, though the latter was still noticeable in some cases twenty days after treatment. No reddening of the skin or fluctuation at the site of injection was observed.

Following each intragluteal injection there was a gradual rise in temperature to about 101° F. reaching the maximum on the third or fourth day with the general symptoms of fever, such as headache, loss of appe-

TABULATED RESULTS OF SALVARSAN ("606") MEDICATION IN SIX CASES

Age	Infection	Previous Treatment	Condition Before Injection	Injection	Local Effects	Condition After Injection	Remarks
42	Chancre of penis 1889. Treated locally. No secondaries were noticed. Developed tertiary lesion 7/1/10.	Gumma incised and treated with antiseptic dressings. No mercury or iodids taken.	Gummatous lesion of frontal bone began about July 1, 1910. Was incised about September 1. On admission to hospital this was about 2½ by 2 in. in diameter and projected from forehead as a hard mass. There was a small incision in one portion of mass discharging pus. Loss of appetite and general feeling of ill health. Wassermann positive.	11/1/10—6 gram "606," dissolved according to Lesser's method in a 20-c.c. alkaline solution and 16 c.c. injected into each buttock.	Patient cries with pain at the time of injection and complains of pain extending down legs. Painful indurated mass in each buttock with maximum tenderness on the third day. Tender to pressure twelve days after injection. No redness of skin or softening at any time.	11/3/10 — Two days later gumma softer and slightly smaller. Improvement steady. 11/19/10 — No discharge from incision and mass less than half the original size and very soft and flat. Gain of three pounds in weight; feels well; appetite good. Wassermann positive.	11/2/10—Erythematous eruption involving flexor surfaces of arms and upper part of chest. 11/3/10—Eruption fading rapidly.
21	8/15/10—Chancre of penis. Spirochetes found. 11/15/10—Maculopapular eruption appeared.	Local for chancre only. Primary sore lasted seven weeks.	Maculopapular eruption scattered over body, more numerous in palms; mucous patches in mouth. General glandular enlargement; malaise, loss of appetite. Wassermann positive.	11/4/10—0.4 gm. by Lesser's method.	Painful induration. Left hospital ninth day, having but little local disturbance.	Mucous patches lost their irritability after fifteen hours. 11/7/10—Three days after injection mucous patches indistinctly seen. 11/6/10 — Two days after injection secondaries fading. 11/9/10—Glands becoming smaller. After eight days secondaries all gone from body. Remains of same in palms. 11/15/10—Patient looks fine and feels well.	*
21	7/10/10—Chancre of penis lasting two weeks. 8/15/10—Ulcerating secondaries in throat.	Took mercury for six weeks in pill form until teeth became sore. Took liquid medicine two to four weeks. No improvement at any time. All medicine stopped two or three weeks before admission to hospital.	Excavating ulcer of each tonsil size of a dime. Enlargement and induration of glands of neck. General glandular enlargement. Mucous patches in mouth. Erosion of vocal cord with edema and injection. Gonorrheal urethritis. Gonorrheal arthritis involving both knees. Wassermann positive.	11/4/10—0.6 gm. by Lesser's method.	Painful induration. Fairly comfortable in five days.	Infiltration of tonsils less marked after fifteen hours. Mucous patches not tender. Tonsillar and laryngeal lesions healed in six days. Glands slightly smaller after three days. 11/22/10 — Wassermann positive.	
34	Extragenital infection Aug. 5, 1910. Excision of primary lesion. 10/8/10—Maculopapular eruption. Mucous patches in mouth and about anus.	Gray powder, gr. 2 t. i. d., for two weeks. Blue mass, gr. 2, every four hours for two weeks. Discontinued on account of intestinal disturbances. Nine doses of mercury given intragluteally. Slight improvement in secondaries with latter. Last dose given 11/6/10.	Maculopapular eruption scattered over body and palms; more numerous over forehead. Mucous patches about anus. Moderate injection of conjunctivae, especially of right eye. General malaise with loss of appetite. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Local effect in this case more marked than in others. Swelling more extensive from beginning and more painful. Cramps in calves of legs, especially at night. These still occurred eight days after injection. Sleeplessness requiring morphin and later chloral and trional.	11/10/10 — Mucous patches not sensitive. 11/11/10 — Secondaries fading. 11/16/10—Seven days after injection eruption almost gone; few lesions on back and forehead. 11/18/10 — Secondaries practically disappeared.	Herpes labialis on fourth day.
19	Exposed 8/20/10 — Sore throat developed about one month later.	None.	11/5/10 — Deep excavating ulcer of left tonsil with overhanging edges and infected base. Tonsil enlarged and indurated. Regarded as primary lesion. Submaxillary and surrounding glands enlarged. Axillaries and epitrochlears enlarged. Wassermann positive.	11/9/10—0.65 gm. by Lesser's method.	Painful induration. Discharged on seventh day, and walked with but slight limp at that time.	11/10/10 — Fifteen hours after injection ulcer was not so deep or crater-like in appearance and was not painful on swallowing. Tonsil smaller. 11/21/10—Lesion entirely healed.	
24	10/3/10—Chancre, which was treated locally. Macular rash appeared 11/10/10.	Two doses sodium cacodylate, hypodermatically. Oct. 22, 10.1 gr.; Oct. 22, 1910, 1 gr.; Oct. 25, 1910, 2 gr.; Oct. 25, 1910, 10.2 gr.	Two large indurated sores on penis (see photo). 11/10, macular rash over body. Wassermann positive.	11/12 — 0.4 gm. "606" given intravenously, according to Schreiber's method. After a portion of the fluid was injected a small amount ran beneath the skin, so a new site was chosen, with perfect result.	Very slight irritation where small amount of fluid ran under skin. This disappeared the following day. No soreness where technic was good	Chill, nausea and vomiting two hours later. Temperature rose to 101.5° F. in six hours and had one diarrhoeic stool. Primary lesion markedly improved on second day. Healed in thirteen days. (Figs. 1 and 2.)	Six hours after injection rash much brighter and more extensive. (Herxheimer reaction?) Herpes labialis on third day.

tite, general malaise, and leukocytosis. In the case in which the drug was given intravenously there was a rather marked but very transient general reaction. There was a marked chill two hours after the injection and the temperature arose in six hours to 101.2° F. Associated with the increase in temperature there was headache, vomiting and one diarrheic stool. When the temperature was highest this patient showed a distinct increase in the already existing rash which became more intense and more extensive, covering the whole of the trunk and the extremities (the so-called Herxheimer reaction).

Fig. 2.—Lesion in Case 6 thirteen days after injection with salvarsan ("606"). The induration is much less marked and the ulcer has entirely healed.

The most interesting result of the use of the remedy was the rapid onset of the improvement after the administration. The primary lesions began to heal within two days. The mucous patches lost their irritability in fifteen hours. The ulcerating secondaries of the tonsils manifested an improvement in the same length of time, the first changes being a decrease in the infiltration of the surrounding tissues and a subjective lessening of the stiffness which caused difficulty in swallowing.

All of the patients are still under observation and subsequent serum examinations will be made to determine the ultimate results of the treatment.

AN INTERESTING CASE OF CONFUSIONAL INSANITY

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The following case presents several features of unusual interest to the student of mental diseases. In the first place, it is a rather rare type of mental derangement, as I have found in reading the meager descriptions given in available texts; secondly, the etiologic factor is interesting as well as unusual; third, the duration of the attack, and last, the peculiar disappearance and abrupt recovery.

The patient in question, a German-American, was admitted Nov. 17, 1910. Examination showed a man of healthy appearance, though rather thin; age 38, height 5 feet, 11¾ inches, weight 160; pulse 68, regular and full; temperature 98.2; respirations 17; motor symptoms none; all functions fair. His hereditary history was negative—father and mother living and in good health; no history of mental trouble in collaterals.

The patient was quiet and unobtrusive; talked freely when addressed, and frequently mentioned soldiers, woodmen and doctors; would give his correct name when asked but could not spell it. Given pencil and paper, he attempted to write, but gave up, laughing, and remarked that he could neither read nor write. He was cleanly in his habits, not violent in any way and obeyed when told to do anything. He complained of no symptoms, ate heartily and slept well. The commitment papers described him as a well-to-do business man, of fair education, married and the father of four children. He had never suffered from mental trouble, serious injury or disease, was temperate in his habits, and of mild disposition.

In October, 1909, he went with a brother to Omaha to be operated on for appendicitis, ether being the anesthetic used. The operation was successful and after a three weeks' stay in the hospital he returned to his home. From then on he showed a marked change of disposition; refused to recognize his wife and disowned their children. His mind dwelt incessantly on physicians and operations, and he talked continually about taking good care that no medical man would ever come near him. March 28 he disappeared, leaving some blood-stained clothes on a lake shore near the town. All search for him proved futile, and no trace of his whereabouts was found until Nov. 7, 1910. On that date he was picked up by the police of a distant city, identified and returned to his people. His peculiar actions caused him to be brought before the insanity board, which resulted in his being committed to the Nebraska State Hospital. On entering the hospital he was given an active purge and placed under surveillance, no special treatment being instituted.

On the fifth day he asked to see me privately and was brought to my office. A marked change was noticeable in his demeanor, and his face bore a look of interest and intelligence. His first remark was, "Doctor, I'm all right again." Explaining further, he stated that sometime after midnight he awoke and felt a queer pain in his head. Sitting up in bed he noticed that he was in some sort of a ward, and recalling the operation decided that he was still in the Omaha Hospital. When morning came he learned his mistake and immediately questioned an attendant as to his whereabouts and how he had reached such a place.

The last act he could recall was taking ether, previous to the operation thirteen months ago. He could describe the room, and repeat all conversation heard before succumbing to the anesthetic. As to going home after the operation, remaining there until March, and disappearing, he knew nothing. Apparently, no thought or act, during the entire year had left an impression on his mind, and he had lost completely thirteen months of his life. Strangely enough, there seems to be no trace whatever of how or where he passed the interval between March and November. Neither hands nor clothes showed signs of manual labor, and his inability to read or write, while mentally deranged, as demonstrated on entering, showed him incapable of intellectual employment. His means of support and actions during this period would certainly prove of unusual interest, but seem destined to remain a mystery.

The patient's wife was notified at once of his mental change and took him home on parole. A recent report from her states that he has been normal since his return, has taken up work where it was dropped in October, 1909, and is none the worse for his mental vacation.

I have been unable to find, in available literature, a description of any case closely related to the above, but presume that they occasionally come under the care of mental specialists. An interesting case was reported from Toronto, Canada, several years ago, and also one in the London *Lancet* a decade ago. These cases, I believe, were diagnosed as perverted personality, and though resembling our case in some particulars, were unlike in essentials. For want of a more specific diagnosis we have classified our case as post-operative confusional insanity.

FOREIGN MATERIAL IN THE STOMACH

REPORT OF A REMARKABLE CASE

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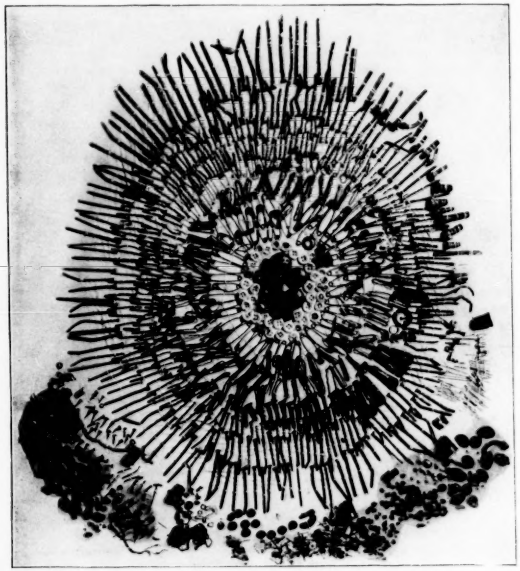
It is not very unusual that hysterical and insane patients swallow hard and indigestible articles, and occasionally this foreign material is found in the stomach at operation or autopsy. Buttons, coins, needles, pins, hairpins, nails, false teeth, and even knives and forks have occasionally been swallowed; and at times may give rise to serious trouble by causing perforation or occlusion of the gastro-intestinal tract. It is also quite a common practice in cases of dementia for patients to pick up and swallow pieces of lint, string or hair, or even to swallow their own hair after biting or pulling it off. Bell of Montreal reported a case in which the hair-ball removed from the stomach formed a complete cast of the stomach and duodenum. We report this case because of the large number and variety of articles present and their great combined weight, with resulting distention and displacement of the stomach. The patient was an inmate of State Hospital No. 2 on the service of Dr. A. H. Vandivert. Both of us were present and conducted the necropsy.



A human hardware store—a collection of foreign bodies found at necropsy in the stomach of insane patient.

History.—Sallie R., a mulatto, aged 33, was admitted July 24, 1903, with acute mania which terminated in dementia, following the use of cocain and morphin. At the time of admission, she was somewhat emaciated, indifferent to appearance, eating and sleeping well. Her physical condition improved soon and the clinical notes made by attendants from that time until her death were always, "appetite and digestion good." She was at first often combative, and because of this tendency was frequently under restraint. During all the time of her confinement she showed a considerable degree of mental enfeeblement, losing all interest in surroundings. Most of the time she was wholly unemployed. She remained in this condition, gradually becoming quiet, less resistive and more interested in things about her, assisting on the ward by sweeping, dusting and such light duties. She was frequently seen by the attendants to pick up from the floor and lawn small articles such as nails, pins, etc., but it was not known that she was in the habit of swallowing them. Her health began to fail and her symptoms first attracted attention about Dec. 1, 1909. Examination at that time suggested kidney trouble, but analysis of the urine failed to confirm a diagnosis of interstitial nephritis, but further observation and subsequent examination did confirm the opinion that she had a nephritis. The extremities became edematous and she was much troubled with dyspnea; still digestion and assimilation continued good, with little loss of flesh or none at all. These conditions continued up to within fourteen days of her death. She never refused food until a week before her death, and then only on two or three occasions. Digestion was apparently normal. In fact, the remarkable stomach findings at autopsy were entirely unsuspected.

Necropsy.—Death occurred Sept. 4, 1910, with autopsy twenty-four hours later. Rigor mortis was complete; the body was well nourished; edema extended to the hips. Opening of the abdomen revealed a peculiar condition of the stomach. There was a slight degree of ptosis of the upper margin; the greater curvature was elongated and rested in the left iliac fossa and presented a nodular, hardened mass which was soon found to be due to a collection of foreign bodies to be described later. The stomach wall was adherent to the muscles of the iliac fossa. Around the stomach and the anterior abdominal wall over a considerable area, forming a sling supporting it and adherent to it so intimately as to be separated with some difficulty, was the greater omentum. Many points of nails, needles and other sharp objects had penetrated the stomach walls, but leakage into the peritoneal cavity was prevented by the thickened and adherent omentum. Throughout this area of adhesion were found numerous small abscesses, resulting from the many perforations, but all were firmly walled in and the general peritoneum well protected from infection.

The stomach measured in transverse diameter 1 cm., in length 33 cm. The greatest diameter was from the cardiac orifice to the lower portion of the sacculated fundus along the greater curvature. This portion extended to beneath the crest of the ileum and was fixed immovably to the anterior abdominal wall. The mass of foreign material lay in this sacculated portion, leaving only a narrow channel along the lesser curvature for the passage of food. Evidently the stomach took little part in the process of digestion, the food being conveyed directly to the pylorus, and very slightly intermingled with the foreign contents.

The stomach wall at the fundus was 14 to 16 mm. in thickness, the subserous layer being 5 to 6 mm. or about one-third of the wall's thickness. A section removed from the thicker portion for microscopic examination showed a marked atrophy of the mucous membrane. The mucous gland tubules presented frequent cystic enlargements, probably from occlusion of orifice. Over numerous small areas there was almost complete erosion of the epithelium, with subjacent round-cell infiltration, indicating the formation of ulcers. Much fibrous tissue could be seen external to and infiltrating between the fibers of the muscularis mucosa. The muscular coat was abou

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normal except that the layers were more than usually well defined by interposed bands of connective tissue. The greatest change was noted in the subserous coat. Here was a thick layer of a dense, fibrous structure, extending over the greater part of the fundus, representing Nature's effort to assist in supporting the great weight imposed on the stomach walls and to protect the peritoneum from injury.

In a few instances there was complete destruction of the mucous membrane over a well-defined surface, apparently from pressure by one of the large foreign bodies, probably for a long period of time. Here the base of the ulcer was formed by dense scar tissues.

The mucous membrane of the esophagus was greatly eroded and numerous ulcers were found, with extensive round-cell infiltration. The muscular layers were hypertrophied and sharply defined.

Foreign Bodies.—The weight of the stomach contents removed at autopsy, after repeated washings to remove all food material, was 2,268 gm. One needle was found in the esophagus and one in the lower border of the left lung. Below is a classified list of the articles removed, as shown in the illustration:

NAILS

20-penny	5	
16-penny	21	
10-penny	24	
8-penny	80	
5-penny	113	
3-penny	210	
Total	453	453

SCREWS

2 1/2 in.	4	
1 1/2 in.	11	
1 1/4 in.	5	
1 in.	9	
3/4 in.	6	
1/2 in.	7	
Total	42	42

BOLTS

3/8 x 1 in.	3	
3/8 x 1 3/4 in.	1	
5/16 x 2 1/2 in.	1	
1/4 x 2 in.	1	
5/16 x 1 in.	3	
Total	9	9

MISCELLANEOUS

Teaspoon handles	5	
Nail-file, 3 1/2 in.	1	
Pieces of steel, 2 3/4 in.	3	
Thimbles	5	
Salt-shaker tops	3	
Taps for 3/8 in. bolts	10	
Buttons	63	
Safety-pins	105	
Hairpins	115	
Carpet-tacks	52	
Common pins	136	
Large white-headed pins, 21/3-1/2	16	
Needles	37	
Broken coat-rack hooks, 2 x 1/4 in.	7	
String beads, small, 4 ft. long	1	
Larger beads, loose	70	
Small stones and pieces of glass	85	
Prune seeds	7	
Pieces of metal, combined weight 3 oz.	54	
Hooks and eyes	19	
Grape and other small seeds	148	
Total	942	942
Making a combined total of		1,446

This case is remarkable for the number and weight of the articles removed as well as for the size and peculiar forms of some of them, especially so when considered in connection with the fact that there had never been any symptoms suggesting trouble with the stomach.

Jaundice not Pathognomonic in Cholelithiasis.—The impression is prevalent that jaundice is pathognomonic of gall-stone. This is not so and much valuable time is lost in waiting for its appearance in patients suffering from cholelithiasis; 80 per cent. do not have it.—A. L. Wright, in *Iowa Medical Journal.*

THE DIAGNOSTIC VALUE OF LOCAL TUBERCULIN REACTIONS *

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Three years ago, on May 15, 1907, von Pirquet announced, at a meeting of the Berlin Medical Society, his discovery of the cutaneous tuberculin test, which consists of a superficial scarification of the skin through a drop of the old tuberculin and the subsequent appearance (in those afflicted with tuberculosis) of a characteristic papule at the point of the inoculation.

The demonstration of this new diagnostic procedure was made possible by the researches of von Pirquet (and B. Schick) into the general law of "allergy" or the altered reaction of the organism toward infective agents on their reintroduction.

The "early vaccinal papule" appearing on revaccination, as well as the cutaneous papular reaction, following the application of tuberculin to the skin of tuberculous individuals, were both ascribed by von Pirquet to the contact of the infectious agent with "antibodies" lodged in the integument as the result of previous infection. The "hypersensibility" of the infected organism, displayed on reinfection, was shown to be a factor in the production of the reaction, the mechanism of which is supposed to consist of the digestion of the introduced virus by the antibodies and the liberation of a toxic substance, with its inflammatory effect on the skin at the point of inoculation. While this and Wolff-Eisner's explanation of the local reaction (substituting "bacteriolysins" for "antibodies") are at present quoted by various writers, the entire question, in its theoretical and practical aspect, is still a subject of extensive investigation.

Contemporaneous with the announcement by von Pirquet of the cutaneous tuberculin reaction, came the demonstration by Wolff-Eisner and Calmette of a similar phenomenon in the conjunctivæ of tuberculous individuals, and this was soon followed by various modifications of the original von Pirquet test by a number of investigators, as Moro (percutaneous test with salve containing 50 per cent. tuberculin), Lignières (rubbing 5 to 6 drops of undiluted tuberculin into the skin), etc., all these tests being based on the now accepted idea of the wide distribution of specific antibodies in the organism of the infected individual.

The specific character of these local reactions found considerable substantiation: (1) in the post-mortem statistics of von Pirquet (demonstrating tuberculous lesions in 123 out of 124 children reacting to the cutaneous tuberculin test, and 161 negative post-mortem findings in 190 children with negative reactions) and in the post-mortem statistics of Wolff-Eisner, Calmette and others; (2) in the almost constant occurrence of these reactions in clinically tuberculous individuals, barring a large number of very advanced cases, miliary tuberculosis, complications by other diseases (as measles) and a few other conditions still unexplained.

The percentage of the positive conjunctival reactions in the clinically tuberculous is given as 92 by Calmette (2,894 cases), 90 per cent. by Wolff-Eisner (435 cases) and 80 to 95 per cent. by numerous other observers; the percentage of the positive cutaneous reactions in tuberculous adults is given by von Pirquet as 90.

* Read at the Sixth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 2-3, 1910.

Considerable difference between the occurrence of the conjunctival and cutaneous reactions was observed in the "apparently healthy" class, the cutaneous reaction being positive in 70 per cent., even at the age of 10 (von Pirquet), while of the apparently healthy adults only 15 per cent. respond to the conjunctival test (Wolff-Eisner).

This observation led to Wolff-Eisner's and Calmette's interpretation of the positive conjunctival reaction as occurring only in active cases of tuberculosis, the comparative infrequency of the positive conjunctival reaction in the "apparently healthy" class being used by Wolff-Eisner as one of the chief arguments in favor of this contention.

The relation between the positive conjunctival reaction and the activity of the tuberculous process has not been, however, so far established (neither has it been absolutely disproved) and the most that can be said, in the light of the present experience, is that a positive local tuberculin reaction, conjunctival or cutaneous, signifies probably in all cases a preexistent tuberculous infection, without furnishing any conclusive information as to the active or latent character of the process.

The cutaneous test is recommended by von Pirquet for diagnosis of tuberculosis in children under 2 years of age, a positive reaction signifying an active tuberculous process, latent tuberculous lesions being rare in this period of life. The test, in his opinion, is not appropriate for adults, in whom positive reactions occur in a large percentage of cases, corresponding to the increasing frequency of latent tuberculous lesions, from childhood up to maturity and old age.

The percutaneous (Moro's) test has no material advantage over the v. Pirquet procedure (as stated by Bandelier and Roepke and others), and is less reliable because of such drawbacks as (1) the variable power of absorption of the skin of different individuals, and (2) a number of conditions varying with each operator (force used in application, etc.). The last objection is equally applicable to the cutaneous test; the manner of its application in all its details must be agreed on, the scarification never to exceed the mere removal of the superficial layer and all unnecessary injury to the skin to be avoided.

The conjunctival test, because of the possibility of its harmful effect in a certain percentage of cases, is not employed at present as extensively as before. With certain precautions, the occurrence of untoward developments may be reduced, however, to a minimum or possibly excluded altogether. In 6,303 conjunctival tests, as reported by Calmette at the International Tuberculosis Congress in Washington in 1908, he encountered three cases of phlyctenular keratitis, twenty of conjunctivitis and seventy-two prolonged reactions. Wolff-Eisner observed very few harmful effects with the use of a 1 per cent. solution of the old tuberculin in a large number of cases. Similarly, with the use of a 1 per cent. solution of old tuberculin in 500 cases (187 positive reactions; physiologic salt solution employed as diluent; cases of ocular disease and conjunctivitis, chronic or acute, excluded) I have seen only two instances of prolonged violent reactions, and these without any permanent injury to the eye. Further research as to the utility of the conjunctival test may, however, be well carried on in the future, particularly by animal experimentation, until all conditions determining the conjunctival reaction are more or less fully established and a harmless method of its application is evolved.

The local tuberculin reaction is but a link in a chain of evidence pointing to the tuberculous character of a suspected lesion and the value of its occurrence can be adjudged only by a comprehensive study of the entire evidence in each individual case; the clinical history, physical signs, etc.

Considerable clinical study and further extensive autopsy experience is still needed in order to establish the relation of the local reaction to the active and latent tuberculous processes and the various types of tuberculous disease. The conditions determining the reaction itself as well as the rapidity and degree of its development in various types of cases are still a fruitful field for research, if the local reaction is to gain the position of a practical diagnostic procedure.

During the last two years I have employed (at the Edward Sanatorium, at Naperville, Ill., and in my dispensary and private practice) the local and subcutaneous tuberculin reactions in a variety of tuberculosis cases. For the conjunctival test a drop of a solution of Koch's old tuberculin in an 0.8 per cent. sterile physiologic salt solution was used; for the cutaneous test, undiluted old tuberculin; dilutions of old tuberculin of various strengths (in 0.5 phenol solution) were employed cutaneously for differential study of results with various dilutions in the same individual. For the percutaneous test (Moro) an ointment consisting of equal quantities of Koch's old tuberculin and hydrated wool fat was employed.

In applying the conjunctival test the technic, as recommended by Wolff-Eisner, was closely followed; for the cutaneous reaction the superficial layer of the skin of the forearm (anterior surface) was gently scarified, by turning the von Pirquet inoculation needle through a drop of the old tuberculin; in applying the percutaneous (Moro) test a piece of the ointment the size of a pea was rubbed into the anterior surface of the forearm. The results were generally observed at the end of twelve and twenty-four hours and, after that daily for several days.

The conjunctival reactions were classified in their degree according to the scheme of Citron.[1] Similar classifications are offered by Comby, Edward R. Baldwin, and others. In this scheme + = means reddening of the caruncle and palpebral conjunctiva; + + = means intenser reddening with involvement of the ocular conjunctiva and increased secretion; + + + = means intense reddening of the whole conjunctiva with chemosis, much fibrinous and purulent secretion, small ecchymoses, etc.

For the results of the percutaneous test, Moro's classification was used.[2] It is as follows: Slight reaction: single, isolated, more or less distinct, reddened spots, visible twenty-four to forty-eight hours after the inunction and only on careful inspection, disappearing in a few days; well-marked reaction: papules indistinguishable in degree of hyperemia and exudation from those of the cutaneous inoculation, or coalescing red nodules on inflamed base; intermediate: thirty to fifty or more discrete, miliary nodules with reddened areola. The size of the papule, the degree of redness and elevation were recorded in describing the cutaneous reactions.

This paper deals with some of the features of the local tuberculin reactions, as influenced by the site of

1. Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 24.
2. Bandelier and Roepke: Tuberculosis in Diagnosis and Treatment, p. 17.

the inoculation, the degree of the tuberculin dilution, the stage of the disease and the state of resistance; in a group of cases the local tuberculin reactions are compared with the results of the subsequent subcutaneous injections of tuberculin.

THE SITE OF THE LOCAL TUBERCULIN INOCULATION AS A FACTOR DETERMINING THE DEGREE OF THE REACTION

In applying the von Pirquet test to the skin, the degree of the reaction varies frequently, according to the site selected, in its extent, injection, elevation and rapidity of development. Exceptions, however, occur to the observations stated below, the reaction at times being more marked in locations where the reverse is usually the rule.

In all, 140 applications of tuberculin were made in fifty-five cases of pulmonary tuberculosis (mostly in the first stage of the disease). In ten cases tuberculin was applied simultaneously to the anterior surface of the arm and the interscapular space, the dilutions of 10 and 25 per cent. and undiluted tuberculin (2 inches apart) being used in a straight line in both locations. In five of these cases the reactions were slightly more pronounced in size in the interscapular space; in three there was practically no difference; in two the reactions were slightly more marked on the arm.

In twelve cases undiluted tuberculin was applied to the anterior surface of the forearm and the interscapular region on the same side. Invariably the reaction in the interscapular region was more extensive, generally redder and in two cases more elevated (the average diameter of the interscapular reaction 16.5 mm., forearm 10 mm.).

In twelve cases undiluted tuberculin was applied to the posterior surface of the left leg and anterior surface of the left forearm, with a resulting more marked reaction in the first-named location in nine cases (average diameter 12.5 mm., forearm 9.5 mm.). Slightly more marked reaction was observed on the left forearm in four cases, in which undiluted tuberculin was simultaneously applied to the anterior surfaces of left and right forearm.

In twelve cases, a 25 per cent. dilution of tuberculin was simultaneously used on the anterior surfaces of the thigh and arm, with a resulting more marked reaction on the thigh in nine cases (average diameter 12.5 mm., arm 9.5 mm.). More marked reactions were also observed below the mammary gland than on the anterior surface of the forearm.

It is evident from observations made by numerous investigators that the anatomic conditions of the skin and mucous membrane in various locations of the body (the histologic structure, circulation, lymphatic system, nerve-supply, etc.), as well as greater cutaneous sensitiveness displayed by some individuals to the slightest mechanical or chemical irritation, have their influence in determining the degree of the reaction; they are factors of importance and an accurate interpretation of the local reactions is impossible without giving due consideration to these varying conditions.

THE STRENGTH OF THE TUBERCULIN SOLUTION AS A FACTOR DETERMINING THE DEGREE OF THE CUTANEOUS REACTION

One hundred and four cutaneous applications of tuberculin, of various dilutions, were made, according to von Pirquet's directions, in forty-six cases of pulmonary tuberculosis (twenty in the incipient stage, twenty-six moderately advanced). In thirty-four of these cases, a 25 per cent. solution and one of undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm, 2 inches apart, the scarification being made with a separate instrument through a drop of each dilution. The resulting reactions were as follows: (1) size of the papule with undiluted tuberculin decidedly larger in fourteen cases (with undiluted tuberculin the diameter was 12.5 mm.; with 25 per cent. it was 7.5 mm.); smaller in twelve (with 25 per cent. 13.5 mm., with undiluted 9.5 mm.); same size with both dilutions in eight cases; (2) elevation of the papule, with undiluted tuberculin, greater in ten cases, smaller in six, same in eighteen; (3) redness, with undiluted tuberculin, more pronounced in four cases, same in thirty.

In twelve cases, a 10 per cent. dilution, a 25 per cent. and undiluted tuberculin were simultaneously applied to the anterior surface of the left forearm. The resulting papule was larger in size, with undiluted tuberculin, in six cases; larger, with 10 per cent. in four; the same with all dilutions in two. The elevation was more marked with undiluted tuberculin in six, with 10 per cent. in two, the same in four. Redness was more pronounced with undiluted tuberculin in eight, with 10 per cent. in two, the same in two.

The manner of the application and the actual amount of tuberculin absorbed are seemingly important factors in determining the degree of the reaction.

In all our cases, an attempt was made to make the scarification superficial and uniform, with all dilutions. The drop was left undisturbed for five minutes after the inoculation, the excess of tuberculin around the point of inoculation being removed at the end of that time.

A more reliable interpretation of the cutaneous reaction may be possible with an improved technic, in which a small, measured quantity of tuberculin should be used for cutaneous inoculation, under conditions facilitating its complete absorption.

THE ANATOMIC EXTENT OF THE DISEASE AND THE STATE OF RESISTANCE OF THE INDIVIDUAL AS FACTORS DETERMINING THE DEGREE OF THE LOCAL TUBERCULIN REACTION

From the experience of numerous observers we know that, as a general rule, reactions on application of tuberculin grow less pronounced and occur less frequently with the anatomic progress of the disease from the incipient to the far-advanced stage. The "antibody" theory of tuberculin reactions explains this by the gradual failure of the organism to respond to tuberculin stimulation. The anatomic extent of the disease is, however, not always indicative of the coexistent state of resistance of the individual. In numerous cases, with most extensive signs, particularly in those in which the process is very chronic and the general condition is favorable, the local tuberculin reaction is frequently very pronounced, while the reaction fails or is very slight in a certain percentage of anatomically incipient cases.

In statistics covering thousands of cases, the classification "first," "second," "third" stage is synonymous of course with the gradual impairment of resistance and decline of response to tuberculin, from stage to stage (as various factors counterbalance each other in large groups of cases). In observation of individual cases, however, this power or failure of response to local tuber-

culin application is frequently at variance with the stage of the disease.

I append here, as an example, an experience with a group of cases classified according to stage[3] and observed for periods of one to two years subsequent to tuberculin application. This group included a number of advanced cases characterized by chronicity of process and favorable general condition.

In 165 cases of pulmonary tuberculosis (ninety-nine incipient, thirty-six moderately advanced, thirty far advanced), the conjunctival reaction was positive (traces of reaction included) in 67 per cent. of the incipient, in 33 per cent. of the moderately advanced and 67 per cent. of the far advanced; the cutaneous reaction was positive (diameter above 5 mm.) in 69 per cent. of the incipient, 41 per cent. of the moderately advanced and 67 per cent. of the far advanced.

The average diameter of the inoculation papule in the first stage cases was 12 mm.; second, 13 mm.; third, 11.5 mm.; the comparison showing very little variation for the three stages of the disease.

With the conjunctival test, more pronounced reactions were obtained in the second stage (48.5 per cent. of the positive cases more than +) than in the first (28 per cent. more than +). Very slight difference in the degree of the percutaneous reaction was observed in forty first stage cases and twenty-nine second. These figures have reference of course only to a limited number of cases divided according to stage; their analysis suggests, however, that the mere anatomic extent of the disease does not give a definite idea of the resistance of the patient and sensibility that may be displayed on application of tuberculin.

Dividing these 165 cases into three groups, regardless of the anatomic extent of the disease—(1) progressive cases, good general condition, (2) stationary, good general condition, (3) far advanced, hopeless—the percentage of the positive reactions is readjusted in the following way: first class, conjunctival, positive in 75 per cent., cutaneous in 70 per cent.; second class, conjunctival, positive in 35 per cent., cutaneous in 82 per cent.; third, conjunctival, trace in 10 per cent., cutaneous, positive in 33 per cent.

Observations on various groups of cases lend support to the general idea that the tuberculin reaction fails with the gradual exhaustion of the defensive elements of the organism, and the anatomic extent of the disease is important only in the measure in which it is operative in producing this condition. This is offered as an observation, familiar to many, without any attempt at evolving a general diagnostic or prognostic scheme based on the degree of the local tuberculin reaction. Experience, however, tends to substantiate in a large number of cases the dictum of Wolff-Eisner, that a negative local tuberculin reaction, in the presence of decided physical signs, is of unfavorable augury, pointing as it does to the inability of the organism to counteract the toxins of the tubercle bacilli; while a positive reaction means simply that the defensive elements still exist, the battle is still being fought, but the result cannot be predicted.

REPETITION OF THE LOCAL TUBERCULIN TEST DURING THE COURSE OF THE DISEASE: INTERPRETATION OF THE RESULTING REACTION

It is evident from the consideration of the conditions determining the occurrence and the degree of the local reaction, that various factors influence the result of the repeated local tuberculin test. Of these the following may be considered:

1. The hypersensibility occasioned by a previous inoculation of tuberculin into the skin or conjunctiva is a factor of considerable importance. Fritz Levy[4] was the first in Germany to call attention to the fact that, on the second application of the conjunctival test, hypersensibility is manifested in 70 per cent. of cases, the condition becoming operative three days after the first instillation; this phenomenon was observed also on repetition of the cutaneous reaction. The exact duration of this hypersensibility is still undetermined. Experience shows that in a large percentage of cases the conjunctival test repeated in the other eye is positive, while the first reaction was negative, and the same is true of the cutaneous test. To what extent and in what manner the first introduction of tuberculin influences the result of the second application at another site, is still a question open to further investigation. We know, however, that the local changes produced by the first application of tuberculin are operative for a considerable period of time, as manifested by the reinflammation of the local tuberculin reactions on subcutaneous injection of tuberculin, months after the local test was performed. In 90 subcutaneous injections of tuberculin in a corresponding number of incipient closed cases of pulmonary tuberculosis, with the resulting characteristic constitutional reaction in 80 cases (doses O.T. from .0002 c.c. to .005 c.c.), reinflammation of the conjunctival reaction occurred in 54 cases, cutaneous in 74. The reinflamed conjunctival reaction was more pronounced than the original in 46 cases, same in 6, slighter in 20; cutaneous, more pronounced in 46, same in 8, slighter in 20. The size of the reinflamed cutaneous spot in many cases was two to five times larger than the original, and this with the injection done two to four months after the application of the local test. Approximately the same experience was obtained with the percutaneous (Moro) test. The reinflammation of the reaction spots may be due to the presence of a larger number of antibodies or bacteriolysins near the cutaneous or conjunctival focus of deposited tuberculin. In what measure or manner this focus of deposited tuberculin influences the result of subsequent tuberculin inoculation at another cutaneous or conjunctival site is still a matter of speculation.

2. The interval between the first and second applications of tuberculin. Improvement in the general condition of the patient as a factor influencing the degree of the repeated reaction. With the progress of a large proportion of tuberculosis cases under sanatorium or home care toward improvement, it is interesting to note the difference between the results of the first and the following local tuberculin tests as applied at various intervals. In 52 cases of pulmonary tuberculosis (34 incipient, 10 moderately advanced and 8 far advanced) the conjunctival test was repeated in the other eye at intervals not exceeding one month from the date of the first application, with the resulting increase in the degree of the reaction over the first test in 30 cases out of 52 (this includes also cases found negative on the first application and positive on the second); of 26 cases, in which the second instillation was performed from one to six months later, an increase in the degree of the reaction was noted in 8, suggesting the explanation that the larger number of more pronounced second reactions in the first month following the first application is dependent on the hypersensibility resulting from the first instillation, a hypersensibility, the duration of which is yet undefined.

Approximately the same result was obtained with the cutaneous test: increase in the degree of the reaction in 22 cases out of 38, with repetition of the test during the first month; and in 18 cases among 42, with the second test applied from one to five months later.

In analyzing the effect of the improvement of the general condition of the patient on the result of the repeated

3. Provisional Scheme of the National Association for the Study and Prevention of Tuberculosis.

4. Wolff-Eisner, Alfred: The Ophthalmic and Cutaneous Diagnosis of Tuberculosis. Chapter on the Repetition of the Reaction.

local tuberculin test, the proximity of the dates of both tests shows itself again to be a factor of great importance. With a gain of less than 10 pounds in weight, subsequent to the first tuberculin application, the second conjunctival reaction was more pronounced in twenty cases out of thirty-two; with a gain of 10 to 30 pounds, in fourteen out of thirty-eight; an increase in the degree of the cutaneous reaction occurred in the first class of cases in eighteen out of thirty-six, in the second class in twelve out of twenty-six, the smaller increases in weight occurring in the first few weeks subsequent to the first tuberculin application, the greater increases in the following four to five months.

A proportionately larger number of more pronounced second reactions was observed in incipient cases; the least deviation in the far advanced, regardless of gain in weight.

It may be expected that the improvement in the general condition of the patient, presumably productive (always?) of an increase in the defensive elements of the organism, would show itself in a more vigorous reaction on the introduction of tuberculin, and this is probably the case; in many instances, however, a mere increase in weight may not be coincident with a greater production of defensive antibodies, as shown by the progressive course of a large percentage of tuberculosis cases regardless of enormous increases in weight.

The relative influence of (1) the state of hypersensibility resulting from the first tuberculin application, and (2) of the increased resistance (as suggested by improved nutrition, recession of the physical signs, etc.), on the result of the repeated local tuberculin test, is still a matter in need of further investigation.

In studying the results of the local tuberculin tests, when applied (1) to various groups of tuberculosis cases (differing in extent and activity of the process, state of resistance, previous use of tuberculin, etc.) as well as (2) at the various stages of improvement or further progress of individual cases, it becomes evident that numerous conditions operate in determining the occurrence and the degree of the resulting reaction. If the present theory of the local tuberculin reaction (based on the assumption of the wide distribution of specific antibodies or bacteriolysins in the infected organism) is correct, all the above-mentioned conditions are factors to the extent to which they stimulate the production of these specific substances and influence the sensibility of the organism to the infectious agent and its toxins.

THE DIAGNOSTIC SIGNIFICANCE OF THE LOCAL TUBERCULIN REACTION AS CONTROLLED BY A SUBSEQUENT SUBCUTANEOUS INJECTION OF TUBERCULIN

1. In 30 incipient pulmonary closed cases in which the conjunctival reaction was positive (21+, 9++), and the cutaneous at the end of forty-eight hours fully developed and strong (average diameter 13.5 mm., pronounced redness and distinct elevation in 60 per cent.), the percutaneous positive in 14 out of 18 (4 slight, 4 intermediate and 6 marked), the subcutaneous test was positive in all: six responding to 0.2 mg. O.T., eighteen to 1 mg., six to 3 mg.; average rise of temperature, 0.9 F.; symptoms in 24; focal reaction in 4; average dose of O.T., 1.2 mg.; marked reinflammation of the conjunctival and cutaneous reaction in 30 (18++, 12+; average diameter of the reinflamed cutaneous spot, 27.5 mm.).

2. In 12 cases of the same class, with the conjunctival = trace in 12, the cutaneous rapid and marked in all (average diameter 13.5 mm.), the percutaneous positive in 9 (3 slight, 4 intermediate, 2 marked), the subcutaneous test was positive in ten: 9 cases responding to 1 mg. and 1 to 3 mg.; focal reaction in 1; symptoms in 8; average rise of temperature after the injection, 1.5 F.; average dose of tuberculin used, 1.4 mg., still showing that regardless of the doubtful conjunctival reaction in these cases, the subcutaneous test was positive with approximately the same dose of tuberculin as in the first group of cases; reinflammation of 6 conjunctival reactions (6+) and 9 cutaneous (average diameter 42 mm.).

3. In 24 cases of the same class, with the conjunctival trace in 24, the cutaneous slight (average diameter 7.5 mm.), the percutaneous positive in 2 out of 7 (one trace, one slight), the subcutaneous test was positive in 21 cases (6 responding to 1 mg., 6 to 3 mg., 6 to 5 mg. and 3 to 10 mg.); average dose of tuberculin, 4 mg.; average rise of temperature after the injection, 0.6 F.; focal reaction in one, symptoms in 15; reinflammation of 8 conjunctival reactions (3 traces, 5+) and 13 cutaneous (average diameter, 12.5 mm.).

4. In 12 cases of the same class, with the conjunctival positive in all (7+ and 5++), the cutaneous positive in 6 (average diameter 6.3 mm.) and negative in 6 (positive on repetition; average diameter 9.5 mm.), the percutaneous applied to 3 (3 traces), the subcutaneous test was positive in 9 cases (one responding to 0.1 mg., 2 to 0.5 mg., 2 to 3 mg. and 4 cases to 5 mg.); average rise of temperature after the injection, 1.5; average dose of tuberculin used, 3 mg.; no focal reactions observed; symptoms in 7; reinflammation of 6 conjunctival (3+, 3++) and 4 cutaneous (average diameter, 25.4 mm.).

5. In 9 cases of the same class, with the conjunctival test negative (6+ on repetition in the other eye), the cutaneous rapid and marked (average diameter 16.9 mm.), the percutaneous applied to 3 (3 slight), the subcutaneous was positive in 9 (3 cases to 1 mg. and 6 to 3 mg.); focal reaction in 2; symptoms in 9; average rise of temperature after the injection, 0.9 F.; average dose of tuberculin, 2.3 mg.; reinflammation of 4 conjunctival reactions (3+, 1++) and 6 cutaneous (average diameter, 25.4 mm.).

6. In 12 cases, with the conjunctival negative in 9, trace in 3 (6 of the negative+ on repetition); the cutaneous negative in 9, trace in 3 (5 of the negative became positive on repetition, with 9.5 mm. as the average diameter); the percutaneous positive in one out of 4, the subcutaneous test was negative in 6 (to 5 mg.) and positive in 6 (one to 1/5 mg. and 5 to 5 mg.). The average rise of temperature after the injection was 1.6 F.; average dose of tuberculin, 4.7 mg.; symptoms in 4; focal reaction in one (with 1/5 mg.); reinflamaation of 5 conjunctival (2 trace, 3+) and 4 cutaneous (average diameter, 9.5 mm.).

An analysis of these cases points to the high probability of positive subcutaneous reaction with correspondingly smaller doses of tuberculin in a large number of cases reacting promptly and distinctly to the cutaneous test; hence the relative value of the marked cutaneous reaction as a positive test in cases in which the subcutaneous test cannot be applied for various reasons.

The focal reaction occurred in only 10 per cent. of cases tested subcutaneously; adding to this number an experience with thirty more positive hypodermic tests in incipient pulmonary cases, we get in all 12 per cent. of focal reactions under the average conditions of observation.

In the light of the autopsy experience of von Pirquet, Wolff-Eisner, Calmette and others, the cutaneous tuberculin reaction in adults discloses tuberculosis only in the anatomic sense; the test, with its present method of application, sheds little or no light on the active or latent character of the tuberculous lesion.

Where a focal reaction is desired (and that can be obtained in only a certain percentage of cases) the cutaneous test cannot supplant the hypodermic. It can be used, however, as a preliminary diagnostic measure, being absolutely harmless, compared with the conjunc-

tival test, and more reliable than the percutaneous reaction, which fails in a large number of cases.

CONCLUSIONS

1. A vast amount of clinical experience, gathered by numerous observers and substantiated in a proportion of cases by post-mortem findings, points to specificity of the local tuberculin reactions.

2. The verdict of to-day is that a positive reaction, following the local application of tuberculin (conjunctival or cutaneous) signifies the existence of a tuberculous focus somewhere in the organism, without giving a definite idea of the active or latent character of the process.

3. Reactions occurring on application of tuberculin differ in their degree according to various sites of the body selected as points of inoculation; a comparative study of the results obtained by numerous observers is possible only with a clear description in each individual case of the site practiced on.

4. The results of cutaneous tests performed with various dilutions of tuberculin contribute to the belief that the actual amount of absorbed tuberculin is a factor of importance in determining the degree of the reaction.

Sufficient evidence has not been produced so far to substantiate the claim that a positive conjunctival reaction signifies active tuberculous disease. The possibility, however, exists, that activity of a tuberculous process may be a factor in causing a positive local reaction with a minimal dose of tuberculin, under certain conditions of the power of response. Hence the failure of the conjunctival test in the clinically healthy and its uniform occurrence in the clinically tuberculous (barring the very advanced cases, etc.).

If this contention has any foundation, a positive cutaneous reaction ought to be possible in active cases of tuberculosis, with minimal doses of tuberculin (greater dilutions).

Further experience with the cutaneous test, with various dilutions of tuberculin, applied to various groups of cases, with a perfected technic, assuring thorough absorption of a definite quantity, may possibly lead to some method of differentiation of active and latent cases.

5. Cases of suspected tuberculosis, in which the cutaneous reaction is rapid in development and marked in degree, generally respond readily to the subcutaneous injections of minimal doses of tuberculin; hence the relative value of the cutaneous tuberculin test in cases in which the employment of the subcutaneous test is for some reason contraindicated.

6. The subcutaneous test remains the decisive diagnostic procedure in doubtful cases of tuberculosis, particularly if a focal reaction is desired. The possible unfavorable effects of this test in some cases may be avoided by the use of small doses of tuberculin (initial 1/5 or even 1/10 mg.), according to the age and condition of the patient.

7. The work of von Pirquet, Wolff-Eisner and Calmette opened a new field for further clinical and laboratory research, out of which may be evolved a safe, reliable method of diagnosis of the obscure and the very incipient cases of tuberculosis.

100 State Street.

Chancre.—The syphilitic chancre should never be cauterized. The destruction is often extensive and the result frequently undesirable.—A. G. Nadler, in *Yale Medical Journal.*

THE MODERN TREATMENT OF SYPHILIS, WITH REFERENCE TO THE RECENT SYNTHETIC PREPARATIONS*

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The enormous number of cases of late syphilis and parasyphilis prove that the classical treatment of lues by the old remedies, as usually employed, is inadequate. This cannot altogether be attributed to a lack of potency on the part of the drugs, but rather to a combination of factors referable to the physician or the patient, or both. It is not my desire to discuss the shortcomings of my colleagues, but rather to call attention to some of the causes which contribute to the failure to control this disease. Of these, there are two which should be especially emphasized, namely, the tendency to regard syphilis as a mild infection with laxity in carrying out its treatment, and secondly, the lack of familiarity with the possibilities of the specific drugs.

For years it was taught in one of our large institutions that the malady is an insignificant one. The dissemination of such teaching among hundreds of students certainly was not in the interest of luetic patients. Views on the benign nature of syphilis are often promulgated by men who are familiar with only one side of the affection. They encounter, for example, chronic ulcerative processes of the skin in patients otherwise in good health and parents of healthy children, and entirely forget that there is a more serious side. An observation of a large number of cases in private and hospital practice from various parts of the country has impressed me with the want of familiarity of the general practitioner with the manifestations of the disease. This is emphasized by the surgical operations frequently performed for luetic affections of the joints, tongue, larynx, testicle, etc., under the mistaken diagnosis of tuberculosis, malignant disease or some other infection. Again, ulcerating and destructive lesions are permitted to proceed to extensive deformity or loss of function before the nature of the trouble is even suspected. This is perhaps due to the fact that we do not give students in our medical schools a comprehensive knowledge of syphilis. Its teaching is scattered through so many departments that when the graduate leaves his school he is possessed, it is true, of a fragmentary knowledge of the cutaneous, nervous, surgical and visceral manifestations he has been taught by the respective chairs, but he has altogether failed to appreciate its significance or to obtain a grasp of the subject. It would seem that the establishment of a chair in syphilology, which would enable one to teach in a comprehensive manner what the infection may do, would be a decided advance in our pedagogic methods.

In seeking to account for the vast amount of uncured syphilis, we must remember, too, that the patient often is culpable in his lack of cooperation. He either fails to carry out properly directions as to treatment and hygiene, falls a prey to the various quacks, pathies, etc., or after outward manifestations disappear neglects all treatment and reverts to his old habits and indulgences.

In addition, there is the fairly large group of so-called unrecognized syphilis, which, according to Fournier's

* Read before the Society of the Alumni of St. Luke's Hospital, New York City, Dec. 17, 1910.

statistics, forms 3.1 per cent. of the men and 17.9 per cent. of all women infected. This is due to the possible absence or insignificance of the primary sore, the absence of induration, multiform and atypical lesions simulating other conditions, chancres in unusual or out-of-the-way localities, and to syphilis acquired in pregnancy, in which cases the initial lesion, and often the secondary symptoms, are wanting. In these cases, in which the primary stage is ignored, the secondary stage may be so mild that it is entirely overlooked and the diagnosis of infection is not made until years after when some lesion of the nervous system or ulcerative lesions of the skin develop.

After eliminating all the foregoing factors ranged on the negative side of treatment, there still remains a percentage of patients who develop these so-called parasyphilitic manifestations and obstinate cutaneous and mucous membrane lesions in spite of treatment extending over a period of years. The treatment of syphilis, however, is not a matter of years or the administration of a certain quantity of mercury and potassium iodid, but is one of controlling the lesions and serum reaction until after the cessation of all treatment, a persistent negative Wassermann reaction is obtained. The old method of administering mercury internally in small doses over long periods of time is not only inefficient, but, in the light of recent developments, is harmful in the possible cultivation of mercury-fast strains of spirochetes. This may account for the failure, in many old cases, to respond to this drug, and for a large proportion of the nervous and other affections in subjects who claim to have taken the remedy over intervals of years.

It is impossible from its course in the early part of the infection to predict the outcome of this disease. It was for a long time thought that severe late symptoms often followed mild early attacks, but from an analysis of a large number of cases it is seen that all forms antedate the severe nervous affections. The so-called benign type has probably been overlooked in the early stages or had inadequate treatment or none at all. In those cases which develop, even after vigorous specific treatment, early lesions of the nervous system, there may be a predisposition on the part of the individual or a congenital lack of resistance referable to the tissue. It is rare, in acquired syphilis, to see the severe involvement of more than one system. In the individual with extensive cutaneous or osseous lesions the nervous system usually escapes and the converse is equally true. Whether the symptoms are benign or malignant, it should be borne in mind that we are dealing with one of the gravest infections, the ramifications of which extend to every branch of medicine, and affect not only the original sufferer, but the family and state. The expense to the state alone for its institutional care of subjects suffering from one form or another of this disease is enormous, while personal and business loss are incalculable. The immense number of mental, physical, and moral defectives, the issue of luetic parents, are a reflection on the diagnostic powers and therapeutic skill of the medical profession.

Fortunately, with such aids to diagnosis as the dark-field illumination and the Wassermann test, the time has gone by when we wait for the development of secondary symptoms to establish the true nature of the affection. The Wassermann reaction in some cases becomes positive as early as three weeks after primary infection, and Hoffmann has demonstrated the spirochetes in the blood three weeks before the outbreak of the constitutional disease. It is, however, simpler to demonstrate the organism in the lesion itself either by means of the dark field or the Burri (India ink) stain. The intensity of treatment in the first six months determines probably the future outcome of the infection. We find that the Wassermann becomes negative much more quickly in patients treated from the very beginning than in those seen later.

Numerous attempts have been made to abort syphilis either by local treatment or by the injection of arsenical compounds. With the former method French investigators have been successful in several instances, but the results have not been sufficiently uniform to warrant its general practice. In 1907 Metchnikoff stated that three injections of atoxyl of 10 grains each would prevent the further development of chancre. To verify this, Lambkin, of the British Army, injected every second man who was infected, with atoxyl or soamin, but failed to control the development of the disease. Greater, although not constant, success has been obtained from the use of the Ehrlich-Hata preparation, but this will be dealt with later.

In the treatment of syphilis with mercury, a vast number of practitioners still rely on the ingestion method, giving bichlorid or protoiodid pills, gray powder, or even mixed treatment in the early stage. Experience has proved that this method is wholly inadequate and that the best results are obtained when the drug is administered by intramuscular injection or by inunction or a combination of both. As a rule, when a rapid effect is desired, it may be obtained by injections of bichlorid of mercury given every other day, but when this is not imperative, it is of advantage to the patient to use the insoluble salt. In my opinion success in treatment depends on a knowledge of the possibilities of the preparation one is using. Every physician should become familiar with some one of the products of mercury, whether it be the salicylate, bichlorid, calomel or gray oil. Practitioners are so besieged by agents of new preparations that before they have learned the use of one they abandon it for another and never become familiar with any. Mercury having been in use for about four hundred years, syphilologists know its possibilities and limitations. It is, therefore, a little premature to depose it from its rank of first specific, notwithstanding recent therapeutic advances and the almost magical effects produced by some of the arsenical compounds, especially salvarsan. Without discrediting Ehrlich's discovery we must not, in our anxiety for a remedy which shall fulfill his ideal, ignore the fact that mercury, too, yields clinical results which sometimes border on the marvelous. Its action on the *Spirochæta pallida* is beyond question, and its rapidity is illustrated by Lambkin's observation that the organisms, which were very numerous before, disappeared from the lesion in about two days after an intramuscular injection of one grain of metallic mercury. In addition to this direct action, mercury is believed to increase the defenses of the body by the formation of alexins to neutralize the specific virus. This influence of the drug on the disease is seen when treatment is begun early, not only in its control but in its preventive action. The important thing to determine is the degree of intensity in the treatment of each individual. In some patients one grain of salicylate of mercury given at weekly intervals

will cause a rapid disappearance of the lesions, while others will yield only when two grains or more are administered. We must learn the dose for each individual without the production of bad effects.

Although it has been taught for years that potassium iodid is not a specific in the true sense of the word, and that it has no indications in the early stage except in malignant forms, one sees it given only too frequently alone or in mixed treatment for early cutaneous and mucous membrane lesions which would disappear under a properly directed course of mercury. Potassium iodid is a valuable adjunct to mercury, by virtue of its power to bring about absorption of the specific infiltrate, and is indicated in those lesions of the late secondary and tertiary stages which do not yield to mercury alone. This refractoriness may be explained on a histologic basis, for under the microscope we find in these syphilomas many giant cells, the result of vascular changes, as well as simple thrombosis of the vessels. The assumption, then, is that the iodid brings about a resolution of the partially organized tissue and infiltrate, the vessels again become pervious and the mercury is able to penetrate to the spirochetes. As the same organisms are present in both early and late syphilis, there is no logical reason why mercury, if it gains access to the organism, should not prove as efficacious in one stage as in another.

Before the introduction of the arylarsonates, arsenic was for years given by dermatologists and syphilologists in syphilis, not only for its supposed specific action on certain obstinate cutaneous manifestations, as the scaling syphilid of the palm, but because of its tonic and alterative effect. In these cases it was given in the form of Fowler's solution, Donovan's solution and arsenious acid. With the discovery of atoxyl by Béchamp and its successful employment in sleeping-sickness by Thomas and Kopke, the use of arsenic in syphilis received a renewed stimulus. This preparation, incorrectly asserted to be a meta-arsenic-anilid, containing about 25.7 per cent. arsenic, was successful in the cure of syphilis in animals, and in the human subject had a marked effect on some of the lesions. It was soon found, however, that the remedy was unsafe and that severe toxic symptoms might follow its administration, such as nausea, vomiting, gastro-intestinal pains, neuritic pains in the limbs, and, chief and most serious of all, optic neuritis followed by blindness. Of 1,633 patients with sleeping-sickness treated by Koch, twenty-two became blind—a percentage of 1.5. Steindorff has collected from the literature reports of ninety-five cases of blindness which followed the use of this drug. The toxic symptoms have been ascribed to impurities in the drug and to the large amount of arsenic introduced into the system. Salmon, who reported very favorable results, advised 0.75 gm., two days later 0.6 gm., three days after 0.5 gm., and then a period of rest. Kurdener gave as much as 50 gm. in seven weeks. Schlect administered 2.4 gm. to a patient in one week; severe toxic symptoms developed on the eighth day, followed by death. The eye symptoms usually appear early; that is, within a few weeks of treatment; exceptionally after a number of months. Nonne treated a woman, aged 37, the subject of general carcinosis, with slowly increasing doses of only 0.06 to 0.35 gm. After four weeks visual disturbances set in which quickly led to blindness; the patient suffered also from headache, vertigo and nausea. When necropsy was performed, a short time afterward, a parenchymatous degeneration of the optic fibers was found. In another patient, a hereditary syphilitic, aged 54, with arteriosclerosis, nephritis and disseminated chorioiditis, treated by Coppez, amblyopia developed after a single injection of 0.05 gm., five injections culminating in complete blindness.

The first ocular symptoms appear to be a scintillation, cloudiness and diminished vision; the visual field becomes concentrically contracted, often more on the nasal than on the temporal side. With the appearance of the first subjective symptoms the ophthalmoscopic examination is negative or the retinal arteries may be more or less narrowed; the veins may be hyperemic or contracted; after a few weeks the papillæ become pale and with amazing rapidity complete atrophy sets in. The pupils, which react for a long time, become dilated and then rigid.

From the observations of Nicolle, Mesnil and Nierenstein, the arsenical compounds owe their efficacy not to the arsenic but to the amido group, which is also present in various dyes as trypan red, parafuchsin, etc., which do not contain arsenic but have a similar action on trypanosomes as atoxyl. According to Ehrlich, atoxyl owes its action to a reduction substance in the body, which he called para-amido-phenyl-arsen-oxid. A preparation, chemically identical with atoxyl, sodium amino-phenyl-arsonate, was placed on the market under the name of soamin. It contains 22.8 per cent. of organic arsenic and its toxicity is believed to be one-fortieth that of arsenious acid. A fresh solution of this preparation is made before use and given intramuscularly every other day in doses of 10 grains each until 100 grains are administered. Lambkin reported that he treated seventy patients, all of whom did well and immediately gained in weight. He found the most beneficial effects of the drug in ulcerations of the mouth, tongue, throat and vegetating condylomas, and said there had been a noticeable absence of sore throat since this treatment was begun. While he had no accidents, blindness, as in the case of atoxyl, is reported from other sources. Lane mentions four supervening after this treatment. Other by-effects are intestinal cramps, nausea and vomiting. I was advised, in a personal communication from a physician in New York, that in a patient who was given daily doses of 1 to 10 grains for rheumatism until a series of 100 grains was administered, blindness resulted, which was, however, only transient. This same physician also treated ten patients with syphilis with a dosage varying from 5 to 9 grains until the course of 100 grains was given, which was then repeated after a period of rest. Except in the case cited, he had noted no other ocular disturbances.

The substitution product arsacetin, introduced by Ehrlich, under the chemical name of sodium-acetyl-phenyl-arsenate, was also employed in solution, in a dosage of 8 to 10 grains every other day until a total of 100 grains was reached. It was superseded by arseno-phenyl-glycin, which was found to be very effective in the atoxyl resistant trypanosomes in mice. From Alt we learn of its effects in syphilis, as he used the drug most extensively. The sequel to this in the attainment, as it was believed, of Ehrlich's ideal in a *therapia sterilisans magna*, is now so well-known that a repetition of the history of arsenobenzol or salvarsan, its commercial name, will be omitted.

Experience in the treatment of syphilis with the Ehrlich-Hata preparation has now been sufficiently extensive to enable us to draw certain conclusions

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regarding the effects of the drug and to cause us to modify some of the very enthusiastic early reports as to its curative properties. The impression so widely prevalent when Ehrlich first announced his discovery, that it would be possible with one dose thoroughly to eradicate the infection, may be true in a limited number of cases, but the relapses which have taken place in a certain percentage have proved that this opinion was premature. Furthermore, the opinion that patients might acquire a susceptibility to the drug is likewise erroneous, since it has been repeated in some cases as many as seven times, not with an increased intolerance, but on the contrary with a diminished reaction to each dose.

Including the first series treated by Dr. Nichols and me at the City Hospital, the drug has been administered in eighty-four cases. Of these there were:

Two patients with initial lesion only, seven with chancre and secondaries, eighteen with early secondaries, nine with late secondaries, seventeen with tertiaries, eighteen cases of tabes, two cases of cerebral endarteritis, three cases of optic neuritis, one case of paresis, three cases of hereditary lues, four latent cases with a positive Wassermann reaction.

The dose employed has varied from 0.3 to 0.6 gm. In the early cases treated at the City Hospital the minimum dose was administered, in some, with brilliant results. These cases were treated with the alkaline solution injected into the gluteal muscles; the next twenty-seven patients were treated with the neutral suspension according to Wechselmann. Objections to the latter mode of administration, such as the persistence of the swelling for weeks, the slow absorption and less rapid effects, turned the scales again in favor of the original method of giving the remedy in alkaline solution. In the majority of cases the injection is followed by pain, which is usually severe enough to require morphin for its control. After twelve hours, however, patients are quite comfortable, although in some instances the pain may persist for three or four days or longer. The pain is especially severe in tabetics and is often generalized; in some cases it is absent, probably on account of anesthesia. The general reaction is manifested by a rise of temperature from normal to 101 F., and a corresponding increase in the pulse-rate. The cases in which the local and general reaction are unusually severe have been attributed by Wechselmann to a tissue or general susceptibility to the drug. An illustration of the latter was met in a woman who was treated with 0.6 gm. Her temperature on the first and second days followed the typical curve, but on the sixth day it suddenly rose from 99 to 102.4 F., and continued until the next day, when it reached 102.8 F., and she developed a generalized scarlatiniform eruption. A patient admitted to the hospital who had taken rough-on-rats developed at the same time a similar eruption with a temperature running about the same course. The suspicion of intercurrent scarlatina in both cases was so strong that a representative of the health board was called in for a diagnosis. Both cases were interpreted as toxic erythemas due to arsenic. Similar ones have been reported by other observers.

Within the last two weeks I have administered the drug intravenously and have been much impressed by the entire absence of pain following this method. In some of the cases the reaction has been very slight, the temperature not going above 100.5 F., and gastro-intestinal symptoms were absent. In one case, within two hours after the administration of the remedy in this manner, a severe chill developed, followed by a rise of temperature of 105 F. and vomiting which persisted for several hours. On the following day, however, the temperature was normal and no further symptoms were noted. A comparison of the intravenous with the intramuscular method shows the superiority of the former, not only in the comfort of the patient, but in the rapidity of its action; and I believe that this mode of administration will have the preference in future.

The effects of salvarsan on primary lesions are very striking. In a young man with three labial chancres, treated on June 2 with 0.3 gm., the lesions disappeared in ten days and his Wassermann reaction is still negative. The only other treatment he had had was two injections of salicylate of mercury. A physician who had infected both hands while operating showed little trace of the lesions one week after the injection. In another physician with a fungating chancre of the finger, a communicating lymphangitis and an enormous mass of lymph-nodes in the axilla, together with a maculopapular eruption of the body, all manifestations disappeared in about two weeks. If the drug is administered early in the primary stage it may be possible to abort the disease. This is illustrated by a patient who received an injection of 0.6 gm. for a primary sore one week old. The erosion healed in two or three days, no secondaries have appeared and his Wassermann reaction is negative.

The most brilliant results with salvarsan, however, are seen in mucous membrane lesions, which show an effect as early as twenty-four to forty-eight hours. In a patient with papules on the tongue, tonsils and pillars of the fauces, rendering deglutition very painful and requiring the use of a local anesthetic, relief was obtained in forty-eight hours, and in a week the mucous patches had all disappeared. This patient had taken mercury for months, under which the lesions would heal temporarily, but if it was omitted for two or three days they would return. Since the use of salvarsan they have remained away up to the present time. Of the cutaneous manifestations, a marked macular eruption was seen to disappear in one week and papular lesions to flatten down in a few days. Scaling syphilids of the palm and sole, which are notoriously obstinate to mercury, respond very quickly to salvarsan. These are the cases in which the combined use of arsenic and mercury is more beneficial than the old treatment. The action of the drug on gummatous lesions is equally impressive, healing often taking place in a week. In one patient with an ulcerating nodular lesion of the leg, of the size of a hand, cicatrization was practically complete at the end of three weeks. In another patient with a gummatous infiltration of the leg of six years' duration and pseudo-elephantiasis of the foot and ankle, after a single injection of 0.5 gm. the infiltration was absorbed in two weeks and the leg returned practically to its normal size.

Bone lesions also undergo resolution very quickly, but as they also disappear rapidly under mixed treatment, it is difficult to draw a fair comparison between the two remedies. The comparison is more apt in the case of malignant syphilis with multiple bone involvement, which did not yield to mercury but was markedly influenced by the arsenical preparation.

The treatment of eighteen cases of tabes has not been very encouraging. The majority of these were, however, of the degenerative type, and the drug was given only at the urgent solicitation of the patient. In several there was a marked improvement in the pains, which

had been very distressing before. It is not at all improbable that in certain tabetic cases in which benefit was reported, a combination of active specific process and secondary degeneration, as suggested by Nonne, was present. In these the meningeal infiltration would be affected, but the degenerative changes would remain uninfluenced. In a case of gumma of the meninges involving the lateral columns, coming on within two years after infection, with marked spastic gait, sensory disturbances on the left side, motor disturbances on the right and atrophy of the muscles of the right lower extremity, betterment in his station, gait and strength was very considerable, but as only two weeks have elapsed since the drug was administered, there is strong hope that his improvement will continue. A similar result in these cases is often observed after bichlorid injections.

In two cases of optic neuritis a temporary arrest in the progress of the affection was noted, but subsequently the disease pursued its course to complete blindness. A very satisfactory result, however, was obtained in a case of acute development within the first year of infection. The patient had been treated with injections of mercury every other day, with intermissions, for nine months. November 16 he developed sudden loss of vision in the left eye. Ophthalmoscopic examination made by Dr. Holzapfel, November 19, was as follows:

"Left eye: Vision equals fingers at one foot; central scotoma about 20 degrees, striated hemorrhages above macular region between macula and disk; nerve-head swollen, edematous, and outlines indistinct; retinal arteries small, veins large and tortuous; in other words, choked disk." November 23 the patient was injected with 0.6 gm. arseno-benzol. December 8 Dr. Holzapfel's report reads: "Left eye: Vision 20/60, fundus normal; total absence of scotoma; circulation in nerve normal; usual sequel, namely, optic atrophy, seems impossible; no evidence at present of previous hemorrhage or of eye having been affected in any way. Normal vision in a short time will not be a surprise."

In view of the fact that the organic arsenical compounds may lead to the production of optic atrophy, an observation of the development of that condition in the early stage of lues is a matter of exceeding interest. It is difficult to obtain from text-books on the eye or on syphilis any very definite data as to the time after infection when these cases develop. The optic atrophies which occur in the late stages of syphilis and usually precede tabetic manifestations by years, probably belong to the parasyphilitic group, while those which occur in the early stage are the result of an acute inflammatory process.

Mott noted a commencing optic neuritis as early as ten weeks after infection, and Wilbrand and Saenger relate the case of a man, aged 20, who suffered with severe headache five months after infection; a month later he became blind in the left eye, and ten days later blind in the right eye.

In this connection I wish to report the case of a physician who was treated on October 7 for a digital initial lesion and secondary eruption with 0.6 gm. of the Ehrlich-Hata preparation. Prompt regression of his symptoms took place, but in the latter part of November he suddenly developed a choked disk, closely simulating the condition in the man cited above who had been on mercurial treatment for nine months. It would be just as fair to assume in the latter case that the neuritis was due to the mercury as that the arsenic was at fault in the former. Still, the suspicion that it may have been responsible cannot wholly be allayed in view of visual disturbances reported from Finger's clinic. As this is a very important and perhaps the only dangerous phase of the treatment, the following cases, reports of which have already been published, will be quoted in detail:

CASE 1.—A robust peasant girl of 19; infection 8 weeks old; multiple scleroses and beginning roseola. August 2 she received 0.45 gm. neutral suspension intragluteally. The clinical manifestations disappeared quickly and by September 30 the Wassermann reaction was negative. October 5 she returned with headache, vertigo, visual disturbances, right-sided oculomotor paresis, beginning optic neuritis of the left eye; Wassermann again positive. Her condition was considered a recurrence, for which she was given October 12, 0.45 gm. in acid solution subcutaneously. October 28 she was placed on mercury and potassium iodid but without result, and neuritis of the right optic nerve set in.

CASE 2.—Girl, aged 19; infection of two and one-half months' duration, for which she received, July 20, 0.4 gm. neutral suspension. By August 5 all clinical manifestations had regressed, but she returned October 18 with visual disturbances and abducens paresis.

CASE 3.—Man, aged 22; infection two years. He had been treated with mercury and potassium iodid, thirty injections of arsacetin and 18 of enesol. July 6 he was given 0.4 gm. for gummata of the nose and pharynx. September 5 he had a recurrence; October 5 visual disturbances, sluggish pupils, bilateral concentrically contracted field and beginning atrophy.

CASE 4.—Man aged 28; lues five months. He was given an injection of 0.45 gm. August 8; October 3 the Wassermann reaction was negative. November 10 he developed chorioiditis of the right eye.

As he has not noted similar manifestations after the use of mercury, Finger is very much puzzled as to the interpretation of these cases. He believes there is either a direct relationship between the arseno-benzol and the eye symptoms or possibly a combination of lues and action of the drug.

Fehr, according to Wechselmann, examined a large number of patients with syphilis during the early secondary period and found in 2 to 3 per cent. of them neuritis, without any subjective visual disturbance. An incomplete cure of these specific changes it is thought later lead to degenerative processes of the nerve. Wechselmann is inclined to look on the ocular conditions developing after the administration of salvarsan as recurrences of the disease, as it has been suggested that after such treatment relapses show a predilection for the eye. Kowalewski reports the case of a woman treated with the Ehrlich-Hata remedy in May; in July she developed severe headache and ten days later ocular disturbances. A month later the ophthalmoscope showed a typical descending perineuritis. This he regarded as a recurrence of the disease, and under inunctions her vision was restored to practically normal. It has just come to my knowledge that a patient treated by me October 24 for an early secondary eruption developed an iritis about a week ago, which is now yielding to injections of bichlorid.

A number of ophthalmologists with whom I have discussed the effects of the arsenical preparations on the eye have expressed the opinion, almost unanimously, that one would expect rather a primary degeneration of the optic nerve, similar to that which follows after methyl alcohol, than an acute inflammatory process. When choked disk and retinal hemorrhage are present the condition would favor the diagnosis of a luetic process. It was thought that the serious objection to the other arsenical products in their action on the optic or vestibular nerves had been entirely removed in salvarsan,

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as no degenerative changes were found in any of the animals experimented on. It is not unusual in cases of syphilis to see active manifestations develop during the administration of mercury. I have noted in a patient who was treated with large doses of mercury by inunction the development of iritis in one eye, and in spite of its continued use, as much as 3 drams being rubbed in, the other eye became affected in a similar manner. The use of a specific drug, therefore, does not always safeguard the patient against relapse during its administration.

With the publicity that has recently been given to twenty thousand or more cases of syphilis, as closely observed as these have been, it would not be surprising if a good many more cases of optic neuritis or other ocular affections were brought to light than after the older methods of observation and treatment. The predilection of the syphilitic virus for the various structures of the eye should always be borne in mind, and the results of the disease not confused with those of the drug.

In hereditary syphilis, the remarkable therapeutic effect of the remedy is, perhaps, best illustrated by citing the following case of a little girl, aged 11. From the history, when she was 11 months old she had a bullous eruption of the feet; when 2 years old apoplexy of the right side which lasted ten months; she recovered and had a second attack. Epileptiform seizures began one year previously to being seen. In March, 1910, she developed a keratitis and her hearing became affected. She had a marked osteochondritis of the wrists and dactylitis of the left index and right middle and ring fingers. Her teeth were of the Hutchinson type; knee-jerks slightly exaggerated; Babinski present, more marked on the right side; Wassermann reaction strongly positive. An acute attack of keratitis developed just before the injection was given. On December 16 she received 0.35 gm. On the seventeenth there was a marked improvement in her eye and pain was absent from her fingers and wrists, which had been exquisitely tender before. When she returned home on the twenty-third her eye had practically cleared up, her hearing was improved and the swelling of the joints was reduced one-half.

In a hereditary syphilitic, aged 23, with an old keratitis and positive Wassermann reaction, no objective improvement occurred, although the patient maintained that her vision had materially increased.

In a cachectic infant with scaling syphilids of the palms and soles, the lesions disappeared and the nutrition was considerably improved with a dose of 0.06 gm.

The results with the Wassermann reaction have varied within very wide limits. As the majority of patients treated have been out-of-town patients, it has been impossible to follow them carefully serologically, and therefore a satisfactory estimate cannot be given. In general, a change took place in four to five weeks. Six days is the earliest period recorded for a patient who had had mercurial treatment before. Another case, although two injections had been given, did not become negative until the end of fifty-two days; a second case with two injections was still positive after seventy-four days, and in a third with a second dose 102 days have elapsed without obtaining a negative reaction. A reaction that became negative in twenty-six days, later was positive again. A patient with an early initial lesion with a weakly positive reaction before treatment, became strongly positive after, but is now negative and no secondary symptoms have developed. Several cases showed alternating negative and positive phases.

SUMMARY

Except in a limited number of cases, salvarsan in a single dose has not fulfilled its promise of a specific in human syphilis. It is, however, a most efficient agent in controlling the early manifestations of the disease and in limiting the contagious stage. As mucous patches and condylomata are the active carriers of the contagion, and most of the cases of infection occur through them, the value of the drug in cutting short this period cannot be overestimated. A therapeutic blow struck in the early stage when the spirochetes are numerous must have a marked effect on the subsequent development of the disease.

The result of one injection is fully equal to that of a prolonged course of mercury in the early stage and to a combination of mercury and potassium iodid in the later stage, with the advantage that we avoid the unpleasant by-effects of mercury, such as salivation. It is especially valuable in combating emergencies, as illustrated in the case of choked disk; in malignant syphilis; in hereditary syphilis; and in those cases which are refractory to mercury.

The objections to its use are the pain which immediately follows the injection, the hospital care necessitated, and the present uncertainty in regard to its possible injury to the eye. Administration by the intravenous method entirely obviates the first objection and it will doubtless be the method of choice in the future. It is, however, more difficult and requires more technical skill.

Where an intensive treatment of syphilis is indicated some authorities are advocating two intravenous injections of salvarsan at intervals of a week followed by an intramuscular injection of an oil suspension.

There is an impression among physicians that it is desirable to avoid mercury for a period before and after the administration of salvarsan. This is without foundation, as in the majority of cases patients who have been treated with mercury do better than when the remedy is given alone. A previous or subsequent mercurial treatment also influences the Wassermann reaction more favorably. This supports Ehrlich's contention that the organisms have more than one chemoreceptor and that the contagion can be attacked from more than one side. In cases in which the Wassermann reaction does not become negative at the end of four or five weeks, and it is not practicable to give a second dose of salvarsan, I am now advising a course of mercury.

If, by combining the mercurial treatment with salvarsan, we can accomplish a cure of this infection in six months and obtain repeated negative serum reactions, our views regarding the length of time that must intervene between the onset of this disease and marriage may be materially modified. We are not yet, however, in a position to issue any dogmatic rules regarding this very vital question.

Until we know more of the possibilities of the drug with regard to the eye, an attitude of conservatism should be preserved. It would be better, therefore, for the present not to employ it as routine treatment, but only in cases in which it is especially indicated, observing carefully the precautions laid down by Professor Ehrlich. Every patient should be examined by an ophthalmologist before the drug is administered, and

patients should have hospital care for four days to a week after. In the light of cases recently reported from Lesser's clinic, in which the general reaction did not appear until the ninth and twelfth day, it would be safer to lengthen the interval of hospital observation rather than to shorten it.

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TREATMENT OF THE PAINS OF ACUTE ANTERIOR POLIOMYELITIS

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Formerly, pain was not considered an important symptom of infantile paralysis; but in the recent epidemics in Europe and America it has been a prominent feature in many cases. The New York committee reported that it was marked in 50 per cent. of the cases they analyzed, and that it was sometimes excruciating, and often lasted for weeks.

As meningitis is emphasized in the report of this committee as a feature of the morbid invasion, it might be inferred that the sole cause of the pain manifested is irritation of the meninges. It is to be regretted that the committee is not explicit on this point; but it may be inferred from the emphatic recommendation of suspension in a warm bath in order to remove the pain, that meningitis cannot be the explanation of certain of the pains at least, for no mechanical measures are capable of allaying the irritations of inflamed meninges.

My observations during the present epidemic in Washington have shown me that there are two distinct types of pain resulting from poliomyelitis. The first is that due to meningitis, of which I have nothing further to say. The second is due to the nutritional and mechanical effects which follow destruction and interference with the neurons which govern the muscles. It finds its analogy in the normal pain and tire which result from cramped positions or prolonged exertion. It is due to stretching and sagging of muscles and joints, and can be experimentally produced very easily in shoulder, elbow and wrist by holding in the hand a heavy weight while the muscles are relaxed. The atony of the muscles is further favored by this passive stretching which, too, increases the pain.

The best proof that this is the real nature of the majority of the prolonged pains after poliomyelitis is afforded by the methods which most readily relieve them. These all depend on the principle of relieving stretching and sagging of muscles, tendons and joints with their fasciæ.

The methods used are galvanic electricity, suspension and support. Of these galvanic electricity is the most efficacious because it responds to the most insistent physiologic need, that for exercise of paralyzed muscles. The passive exercise afforded by massage does not excite the contractile function of the muscle fibers, and when this function is in abeyance, atrophy of the muscle cells occurs. Galvanic electricity is the only means by which it can be prevented when there is degeneration of the motor nerves; no other therapeutic measure excites contractility.

I am aware that many text-books and electrotherapists advise the postponement of electricity for two months. This is an error due to a misconception of the pathology of the disease from a vague idea that electricity should not be applied in inflammatory states. But there is no inflammation either of muscle or nerve in this disease: these structures are affected by a degeneration secondary to an inflammation which implicates their cells of origin and which itself is interstitial, the cells being involved only on account of their contiguity to the diseased process. The pathology is unlike that of multiple neuritis, in which a toxin causes an active inflammation of the nerves themselves, which is of course aggravated by the functional activity excited by electrical currents or other stimuli.

To these considerations, I wish to add my experience in the application of galvanic electricity in the first week of the disease. So far from irritating, as inexact thinkers would have us believe on *a priori* grounds, it has afforded great relief, enabling the patient to pass into a tranquil sleep from a condition in which his most imperative desire is frequent change of position. After the paralyzed muscles of the limb have been made to contract by galvanism, positions which before were intolerable can be maintained with ease. In this way the prevention of contractures is much facilitated. The reason of this should be obvious enough; for contractures not due to weight of the parts are caused by the overcoming of a paralyzed muscle group by the tonicity of its antagonists.

Suspension in water also acts by relieving the torsions, stretchings and involuntary tightenings which are the accompaniments of even the best-devised supports in the most comfortable bed. Indeed the excess of these tensions has been invoked by some observers as a factor in neurasthenic states, and much benefit has accrued some patients through the adoption of a method of intentional relaxation during repose. But in no way can this be attained so completely as by the even pressure exerted by a surrounding fluid medium. So that, as it is not often expedient to galvanize the muscles more than once a day, the value of suspension in a warm bath is not exaggerated in the report of the New York committee. The third means of relief of abnormal tensions of muscles and fibrous tissue is the suspension or support of the trunk and limbs by a jacket, in slings and cradles or by pads and tilting of the bed.

Vibration, massage, passive movements and hydrotherapy, of course, maintain a place in the treatment as aids to nutrition and as imperfect substitutes for exercise and its substitute galvanism; but these measures are subsidiary only.

Remembering that degeneration commences within three days and is decided by the tenth day, and knowing that regeneration is a matter of months, the physician will be prepared for more and more recovery of voluntary movement for a prolonged period. But observers are agreed that the earliest possible utilization of each recovering or unimpaired muscle bundle is of great advantage. To this end, it is most important to encourage the patient to make efforts. In young children muscular control is poorly developed, and a determination to overcome difficulties has not become a characteristic. Hence, it is often the case that when only a few muscle bundles of one group are spared, the child will cease to innervate that from which he receives no result. To overcome this tendency the child's limb must be placed in the best possible position to manifest a movement visible to himself. The best of all situations is suspension in water; and this re-educational measure is the second advantage of systematic use of the warm bath.

But there is another factor in this re-education. A child will soon cease to engage himself in what he conceives to be an imposed task. But if it is made interesting for him, it will become a game; and he will per-

severe in it without an irksome supervision or, what is even worse, a compulsory exaction of a task which would render the whole matter distasteful. Hence, all kinds of games must be devised and taught to the child; and these should be adapted to the needs imposed by the distribution of the paralysis.

Psychologic considerations are of great importance also in the after-care of a patient who remains paralyzed. A tendency to reticence and diffidence may have to be counteracted by providing active interests demanding social adjustments, the opportunity for which is apt to be curtailed in the case of a disabled child. On the other hand selfishness and the desire for unreasonable exactions may have to be overcome. Contact with the social environment must be fostered in every possible way. A small country town perhaps affords the best opportunity for these cases. The stagnating tendency which sometimes rules these patients may be neutralized by stories of men who have overcome physical infirmities; for, after all, the range of opportunity for a cripple in good health is not so limited as may appear at first sight. Of course, when a sedentary life has to be led every possible means must be used to obtain physical exercise and to avoid the cramped attitudes which favor poor oxidation and tuberculosis.

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SIMPLE COMPLETE TONSILLECTOMY

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That complete removal of the faucial tonsil with its investing capsule is the most satisfactory procedure, is the teaching of our best operators to-day. It is not my purpose or my pleasure to depart from this teaching, but on the other hand, after fourteen years of experience and the performance of almost every tonsil operation that seemed at all rational, I commend it the more.

This being the case, it is my intention only to emphasize the simplicity with which this operation can be performed with a vertical snare, and at the same time accomplish the desired results.

In using the word "complete," I mean all the term implies, viz., freeing the tonsillar space by removing all the tonsil with its investing capsule intact. Anything short of this is bad surgery and should not be practiced, as clinical observations have clearly shown it to be of little or no permanent benefit.

The first thing to do is to ground oneself in the anatomic relations of those special parts of the throat, and the second, to keep inside the tonsillar space. The most prolific cause of hemorrhage is failing to get all of a fibrous tonsil, cutting the muscles with sharp instruments, or lacerating them with the finger or some dull instrument. A clear knowledge of the possible sources of hemorrhage will enable the operator to largely prevent its occurrence. Therefore note the following blood-supply:

The tonsillar artery, a branch of the facial, is the chief vessel to the tonsil, though the ascending palatine, a branch of the lingual, sometimes takes its place. The tonsillar artery passes upward on the outer side of the superior constrictor muscle to the tonsil and soft palate. The palatine artery also sends branches through the superior constrictor muscle to the tonsil. The ascending pharyngeal passes upward outside of the superior constrictor and gives off a correspondingly larger branch when the palatine artery is small.

The dorsalis linguæ, a branch of the lingual artery, ascends to the base of the tongue and sends branches to the tonsil and pillars of the fauces. The descending or posterior palatine artery, a branch of the inferior maxillary, supplies the tonsil and soft palate from above, forming anastomoses with the ascending palatine. The small meningeal artery sends branches to the tonsil, though they are of minor importance.

The fact, then, that the three principal arteries, viz., tonsillar ascending pharyngeal and ascending palatine, which supply the tonsil and pillars, pierce the superior constrictor muscle in their ramification to these parts, makes it important that the technic should be such as not to injure those muscles bounding the sinus tonsillaris by pulling them through the instrument and by cutting out sections with instruments cutting on the horizontal, by piercing them with sharp instruments, such as knives or scissors, or by lacerating them with blunt or dull instruments as previously stated. Hemorrhage, the dread of tonsil surgery, will be thus avoided.

There are a few, a very few, who can dextrously use the finger to dissect or divide the tonsil from the muscles without injury to the muscular structures, but I should advise, if you do not already know how, not to take it up, as too many throats will be sacrificed, at least to some extent, in learning.

In my judgment, tonsillectomy is a hospital, an office or a home operation, and I have had equally as good results when it was performed in office or home as when performed in the hospital. I certainly have no objections to the hospital, but have never deemed it necessary to impose this extra expense on patients unless I was fearful of their not receiving the proper care and attention at home.

Anesthesia may be local or general. I prefer local anesthesia, except for obvious reasons, to be decided by each surgeon, as personal elements enter largely into its consideration. For general anesthesia, I use ether exclusively, and for local use a 10 per cent. solution of cocain applied once or twice is sufficient, as too frequently applied, some toxic effect may result.

For injecting the tissue around the tonsil, solution of epinephrin and codein has given me good satisfaction. It should be injected at the upper, middle and lower portions of the anterior and posterior pillars respectively, and also in the supratonsillar fossa, one or two minims at each point, with an ordinary hypodermic syringe having an extension.

I generally prepare one tonsil and while it is becoming anesthetized, prepare the other, and by the time the second is prepared, the first is ready to be removed.

TECHNIC

Antiseptic precautions having previously been employed, I grasp the tonsil first prepared with tissue-vulsella forceps of my own design, one blade in the supratonsillar fossa and the other under the tonsil proper, and then by pressing the handles together a firm hold is secured on the tonsil. This special forceps gives a double hold and a tonsil is rarely, if ever, so friable as to allow the hold to tear out. If the tonsil is fibrous, there is both surface and deep hold which makes it doubly secure. I pull the tonsil inward and forward and if the fibrous bands are not united too densely to the anterior and posterior pillars no dissecting is necessary; but I release and insert the forceps through the tonsil snare, which is also of original design. Then I grasp the tonsil as previously stated, and pull it inward and forward, at the same time pushing the fender, which carries a No. 9 piano wire, backward and outward so as to bring the top of the fender in the supratonsillar fossa; in the meantime, the shaft acts as a tongue depressor and does away with the necessity of an assistant. I grip the handles of the snare, and as soon as

the wire is released its tendency is backward and outward, following the tonsil back and cutting it off at its base, the point of least resistance. At the same time it does no possible injury to the anterior and posterior pillars or superior constrictor muscle, and avoiding the injury of these muscles, alarming hemorrhages need not be feared.

If the uvula, by accident, should have been pressed back by the fender, it will be released before the tension on the wire has become great enough to cut. Should the tonsil be fibrous and densely adherent, I dissect it loose from the borders of the anterior and posterior pillars with a wave-edged knife, so as not to impede too much the circuit of the wire in its course to the base of the tonsil, and proceed as previously stated, thus freeing the tonsillar space of all the tonsillar tissue with scarcely a trace of hemorrhage.

I have found this method most efficient and simple in performing *complete tonsillectomy.*

AFTER-TREATMENT

I swab the throat with a 12 per cent. mixture of phenol (carbolic acid) and glycerin. Ten to fifteen drops of phenol in eight ounces of water, to be used as a gargle as often as patient desires, makes a grateful wash. Ice held in the mouth or applied to the throat also makes a very grateful and beneficial means of allaying the pain and inflammation which naturally follows.

Liquid diet should be ordered for the first three or four days, and quietude observed for the same length of time.

A CASE OF TABES DORSALIS WITHOUT ATAXIA *

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While not, as a rule, an early symptom, motor incoordination, as manifested in ataxia, is one of the most significant and distinctive phenomena of tabes dorsalis. Usually manifesting itself after months or years, it may appear in the course of days or weeks. The disturbance in function is in marked contrast with the preservation of gross muscular power, the strength of any individual movement being retained, at any rate for a considerable length of time, before wasting from disuse sets in. Almost invariably the lower extremities are involved first, exceptionally the upper extremities. The muscles of the trunk also may suffer, and rarely those of the face, lips and tongue. The muscles of the vocal bands are said to be involved not infrequently.

The case to be reported is of interest because of a total absence of ataxia, although the disease of the spinal cord appears to be at least of several years' duration.

A shirt-ironer, aged 30, married five years, came under observation Dec. 18, 1909; complaining of weakness and pain in the lower extremities, present for two and a half years, together with stabbing pain all over the body of only a few weeks' standing. The knee-jerks were absent, even with reinforcement, and the pupils were unequal (the right being the larger), contracting in accommodation, but remaining immobile on exposure to light. Station was steady, gait good, and coordination in the upper extremities was preserved. Sensibility appeared to be unaffected, and sexual desire and vigor were active. No visceral disturbance and no symptoms of mental derangement were present. A lymphatic gland was palpable in the left epitrochlear region and glands in the groin were enlarged. A shallow but extensive scar was visible on the head of the penis. The eye-grounds were normal, the disks oval and slightly pallid, and the balance of the ocular muscles was preserved. The patient admitted having had an attack of gonorrhea at the age of 23, but he denied knowledge of syphilitic infection. His wife has borne a child, now 4 years old. She had had no miscarriage and she was at the time of examination advanced five months in pregnancy.

Varied treatment had been employed, but without success. The case was considered possibly one of tabes, but the demonstration of the complement serum-reaction by Dr. E. P. Corson-White seemed to remove any diagnostic doubt, and a course of vigorous antisyphilitic treatment was instituted. Whether symptoms of general paresis will develop later cannot, of course, be foreseen.

Apart from the fact that motor incoordination may be due to causes other than disease of the posterior nerve-roots or sclerosis of the posterior columns of the spinal cord, this case exemplifies the wisdom of employing the term "tabes dorsalis" in preference to locomotor ataxia.

1019 Spruce Street.

* Read before the Philadelphia Neurological Society, Nov. 25, 1910.

WHAT BECOMES OF THE SPIROCHETES IN THE SECRETIONS?

A QUERY SUGGESTED BY EHRLICH'S "606" AND OFFERED AS A SUBJECT FOR INVESTIGATION

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This query may properly apply to other diseases and their therapy, but most particularly and by clearer illustration to syphilis: What becomes of the spirochetes on the free surfaces not reached by the remedy, or, perhaps it would be better to say, in the retained secretions and excretions?

Varying with the different stages of the disease, a certain number of the spirochetes will be found throughout the mucous surfaces. This means the mouth, the gastro-intestinal and rectal areas inclusive, and the Eustachian tubes. The vagina and endometrium must carry countless numbers. The seminal vesicles and prostatic follicles are to be borne in mind. Endothelial sacs such as the pericardium, the pleura, it is fair to assume, contain many of these wandering forms.

The spirochete has been demonstrated repeatedly in most of these secretions or excretions. Negative findings have been reported from the spinal fluid alone in the studies published. This does not by any means prove positively that the spirochetes are not present in the spinal fluid. It simply is an illustration of the fact that, if present, they are difficult of demonstration—a fact most easy of acceptance and comprehension to those familiar with the difficulties of such work. It is a perfectly fair and reasonable assumption, and on most points already proved, that the spirochete is in certain numbers present on all of these surfaces.

We know from many reported studies that the milk of a syphilitic mother to whom "606" has been administered, carries an almost imperceptible dose of arsenic to the nursing child. How much arsenic, if any, is to be found in the vaginal or pharyngeal mucus? How much in the seminal vesicles or the pleura? At best, there is not likely to be found more present than in the milk. The serous membranes belonging to the lymphatic circulation are probably theoretically well within the sweep of the *therapia sterilisans magna,* but this can hardly be true of the bronchi or uterine tract.

Now given body heat and moisture in some mucous cul-de-sac, how long may not this spirochete survive? Surely until long after the last of the "606" has been

eliminated, which when given intravenously is in four days; with a longer time when administered intramuscularly.

This, then is the substance of the query. The spirochete does exist in such localities. These localities offer favorable opportunity for shelter and growth. It is not a wild assumption that they may survive in such a culde-sac many days after the elimination of their antidote. What then becomes of them? Do they not possibly often reinfect the patient? Perhaps this has been an overlooked point in all the years of our treating syphilis by the old methods as well as new. Or do the increased antibodies meet and dispose of each surviving spirochete? It is a question that I have not seen touched on and one that certainly merits the careful consideration of some of our competent biologists.

TWO APPENDICES IN ONE PERSON

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On Nov. 7, 1910, I was called out of town to see Miss C. D., aged 21. She had been suffering intense abdominal pain accompanied with vomiting for three days. The abdomen was distended and tense; pulse 140; temperature 101. A diagnosis of acute suppurative appendicitis with peritonitis was made, and an operation advised. On opening the abdomen I found pus in the peritoneal cavity with no walling off; there were two appendices containing pus; one was ruptured. One appendix measured 3 by ⅜ inches, the other one 3½ by ⅜ inches. Their bases were 1¼ inches apart, and each had a mesoappendix. Drainage was instituted, the patient placed in the Fowler position and continuous rectal saline by the drop method was employed for five days. The patient made a slow recovery; at present is able to walk about the room.

Therapeutics

POSTOPERATIVE ROENTGENIZATION IN CANCER

Cancer is the most dreaded disease afflicting humanity to-day, because of its frequency, its resistance to the commonly accepted methods of management, and the pitiable condition to which it inevitably reduces its victims in the majority of cases. Any measure, therefore, which promises to increase our power over cancer is deserving of thorough trial, and when such a promise has been developed into a certainty that curative power is exhibited by such a measure, even if only in an occasional case it has vindicated its claim to be applied in every case, unless positive contra-indications exist.

The fact that the *x*-ray, when skilfully applied, has demonstrated such curative influence, only the most obtuse will deny to-day. Every radiotherapeutist who has attained sufficient knowledge and had sufficient experience to entitle him to the designation, endorses the above statement and recommends that the *x*-ray be applied, *as a routine measure,* without waiting for recurrence to take place, in conjunction with every operation for the removal of cancer. There is found some difference of opinion as to whether the application should be made before the operation, after the operation, or both before and after, but all agree that it should be made sometime, and that such application should sustain a more or less intimate time relation to the ablative procedure. The doubters of the curative power of the *x*-ray are not found in the ranks of those who know the agent.

But the surgeons are to-day the men who issue the supreme dicta as to how these cases shall be managed, and, unhappily, the vast majority of them are not sufficiently familiar with skilfully applied postoperative roentgenization in cancer to place their judgments above question. As a matter of strict fact, the average surgeon knows vastly less about the beneficent possibilities of this measure than does the roentgenologist or internist about those of ablative surgery. Whether the question involves the management of pneumonia, leukemia, the applicability of physiologic therapy, or the opening of an abscess, the surgeon often assumes a judicial attitude and issues an ultimatum. When an internist or physiologic therapeutist ventures to assume that he is qualified in any degree to pass on a surgical problem, he is often treated condescendingly or with dignified aloofness. And yet the judicial problems with which the internist is confronted in the average case of pneumonia, typhoid fever, nephritis, etc., require, for their efficient solution, nicer mental poise, greater wisdom and experience, and wider knowledge, than nine-tenths of those involved in the most brilliant surgical procedures. The physiologic therapeutist spends his life in a field which is practically unknown to the average surgeon. The early training of both, and their experiences and observations, have familiarized them to a large extent with the theory and practical results of surgical operations. In spite of this, however, the surgeon maintains his attitude of gentle but insistent superiority, and many a patient is thereby condemned to death or invalidism who could be restored to useful and happy activity if the therapeutic vision of the surgeon were less circumscribed: if he could but appreciate that the internist and the physiologic therapeutist are just as capable of sometimes affording him help which is valuable to his patient, as he is of affording them assistance. And with all this, the average surgeon is undeniably entirely honest in his position. He is merely looking through the large end of his telescope.

The foregoing, while apparently more or less irrelevant to the subject, perhaps has a weighty and vital bearing thereon. When the average surgeon is told that every patient who has been operated on for cancer should be roentgenized, as a routine measure, just as soon as the operation wound has healed, he assumes one of three possible attitudes: first, frank skepticism regarding the utility of roentgenization in any but superficial cancerous lesions, an attitude usually provoked by failures which have come under his observation which have discouraged him from seeking further enlightenment from competent sources or from investigating the causes of these failures; second, agnosticism, accompanied by an indifference—sometimes due to his absorption in a large practice—profound enough to prevent him from taking the trouble to look up the therapeutic results of some good roentgenologist; or third, a challenge to discussion opened by such queries as: (1) "Why should a patient be roentgenized before recurrence has manifested itself?" (2) "Why should every patient be subjected to the extra expense involved in routine postoperative roentgenization, when we know that many will be radically cured by extirpation alone, and that recurrence will not take place in such cases?" (3) "Why roentgenize many patients unnecessarily?"

Those who assume the first-mentioned attitude are almost hopeless as far as conversion is concerned; those who assume the second are entirely hopeless; but those

who assume the third are usually open to conviction, and are the men to whom cancer sufferers must look for the realization of their hope for a mitigation of the dismal outlook to which they are doomed by unsupported extirpation. Such queries "put it up" to the roentgenotherapeutist, and he can satisfy any reasonable person of the propriety of routine roentgenization, if his knowledge and experience are sufficient to justify his assumption of the designation.

1. The reason why roentgenization should not be delayed until recurrence has taken place is that by the time recurrence has manifested itself the malignant process will, in many cases, have progressed so far that neither *x*-rays nor anything else can reach it effectively. The most dangerous recurrences are internal; they frequently take place with terrifying promptness, and without giving any outward and visible sign of their presence until they are well developed. The first visible indication of recurrence may transpire months after the fatal internal lesion has insidiously and firmly established itself. Immediate, routine, postoperative roentgenization, when it is effective, eliminates this danger.

Again, it is a well-established fact that recurrences are frequently far more vicious and resistant to the *x*-ray than the original lesion. It is also a well-established fact that roentgenization is utterly powerless to arrest many recurrences. Why subject any patient, then, to the gloomy chance of developing such a recurrence when the catastrophe could be so easily forestalled in, at least, many cases, by immediate postoperative treatment?

Finally, in a disease so difficult of control as cancer, conditions should, when possible, be manipulated so that only the minimum expenditure of therapeutic force will be required of any agent, however much power it may seem capable of exhibiting, because, in some instances, even all that it can do will not be enough. Immediately after thorough extirpation of a cancerous focus, such malignant elements as may remain are microscopic in size; after recurrence the lesions are relatively large. The destruction of a recurrence, then, demands much more remedial efficiency and activity on the part of the *x*-ray, to say nothing of the greater metabolic, resistive, and eliminative efficiency and activity demanded of the patient's organism, than is required when the lesions are microscopic. Immediate postoperative raying constitutes attack on the menacing factors when they are smallest and weakest, and when, if recurrence is imminent, the resistive power of the healthy tissue surrounding these foci is at its best.

2. As far as the extra expense involved in routine postoperative roentgenization is concerned, a moment's thought will demonstrate how slight is its claim to consideration. The desirability of preventing recurrence is too great for adequate expression; on its prevention depends the success of the whole operative procedure. If it obtains, the original operation might just as well—in most cases much better—not have been performed at all, because recurrence is usually more vicious in its course than the primary lesion. Therefore, the expenditure of the fifty or one hundred dollars involved in postoperative roentgenization assumes such slight relative importance, *per se*, as to become entirely negligible.

Concerning the justifiability of advising the patient to incur the extra expense for a remedy which may not be effective, the same logic applies as in the case of advising the original operation. The *x*-ray has demonstrated that it can prevent recurrence in some cases, and the ablative procedure has done the same. The *x*-ray has failed in some cases, and so has extirpation. Therefore, if it is justifiable to recommend the operation it is also justifiable to recommend postoperative radiation. In either case the patient is paying his money for the purpose of securing the most effective means of curing his trouble, and he desires to have his cure made complete and dependable, if possible. He knows that he cannot be guaranteed a cure, however much is done, but he wants all possible reasonable precautions taken. Postoperative roentgenization gives him the best chance for obtaining a radical cure. If the combination of measures is not effective, both patient and surgeon are conscious that everything possible has been done, and neither will have occasion to reproach himself, when it is too late, for having omitted a vital point in technic because of hesitation concerning the expenditure of a few dollars at the opportune moment.

3. This procedure should be applied in every case, even though many patients are treated unnecessarily, because it is never possible to determine which are going to need it previous to recurrence; hence, in order to be sure that all of those threatened receive its benefits, all patients must be rayed. The same logic applies again, as in the case of the ablative procedure. We cannot tell which patients will be radically cured by operation until time has demonstrated that recurrence does not obtain. It has, however, become a well-established principle of surgical practice that extirpation is the proper management for cancer, unless the disease has extended so far as to render operation palpably useless.

As a matter of logic, the argument favors the routine postoperative application of the *x*-ray more than it does the routine adoption of extirpation, because unnecessary or unsuccessful roentgenization does the patient no harm, if skilfully applied, whereas unsuccessful extirpation increases the malignancy of the growth, and the last condition of the patient who is operated on and suffers recurrence is usually worse than the first.

The foregoing paragraph suggests another situation in which postoperative roentgenization sometimes enables ablative surgery to overcome otherwise hopeless cancer, and when the application of either alone would probably be ineffective, viz., when the malignant process is so extensive that it cannot be completely extirpated. A lesion of this character offers no prospect whatever of recovery under ablative procedures alone, and but slight prospect under roentgenization alone, probably because the local and general toxemia induced by the breaking down of large cancerous masses by *x*-radiation, is frequently profound enough to depress the patient's local and general resistive and recuperative powers seriously. Indeed, there can be little doubt that many patients have succumbed to such toxemia. And yet, up to very recently, the treatment of this class of cases has constituted about the whole extent of the field that the average surgeon has been willing to allow the roentgenotherapeutist. The dictum taught and written has been, "use the *x*-ray in inoperable cases," and, for the reason just stated, the *x*-ray did not derive much credit from its use in these cases. It is, indeed, a tremendous tribute to its actual power that it derived any at all. By first extirpating as extensively as possible in such cases, however, the amount of work to be demanded of the *x*-ray, and the amount of contingent toxemia are tremendously lessened, and both measures are given an opportunity to do their utmost under the most favorable conditions obtainable in the given case.

PREOPERATIVE ROENTGENIZATION

This measure cannot properly be considered in this discussion, but just a word in reference thereto will not be out of place, as mention of the postoperative procedure naturally suggests the preoperative application. Its advocates assert that it eliminates the malignant elements from the region surrounding the tissue to be removed, and that this is of great advantage.

This may, of course, be true, but that it actually does so eliminate malignant elements is more or less theoretical and it seems to some roentgenotherapeutists that, even on theoretical grounds, whatever advantage might accrue is more than counterbalanced by the dangers which the measure may precipitate. These are three in number: (1) the danger of depressing the patient's vitality immediately before he is about to need all of his strength for the operation, through the probable induction of more or less toxemia caused by retrogressive changes brought about in the original disease focus by the radiation; (2) the danger of so influencing the trophic functions of the part as to interfere with healing after the operation; and (3) the danger of delaying the operation long enough for sufficient preoperative radiation to be applied.

1. It is, of course, true that in the majority of instances enough toxemic depression will not be induced by preoperative radiation to influence seriously the patient's progress. It is just as true, however, that in many cases what little is induced will be sufficient to turn the scale against recovery. In a disease as refractory as cancer no factor should be permitted to enter into the problem which threatens to imperil, in any degree, the therapeutic outcome, unless a positive compensating advantage is secured thereby. That such an advantage is conferred by preoperative roentgenization is yet to be proved.

2. That vigorous x-radiation markedly retards, and sometimes entirely inhibits, reparative processes is so well known as not to require discussion. Under the circumstances we are considering, especially when it is going to be necessary to apply the ray again just as soon as healing has taken place, no measure should be tolerated which tends, in any degree, to impair the promptitude of such healing. It can, of course, be argued that preoperative radiation should not be applied with sufficient intensity to influence the trophic functions to this extent, and, theoretically, this sounds plausible and reasonable at first thought. Experience demonstrates, however, that two insuperable difficulties render such regulation impossible in any given case, viz., individual idiosyncrasy toward x-ray effects, and the fact that no exact, universally efficient, reliable method of measuring x-ray volume is available to-day. The existence of either one, alone, would render it impossible to secure precise adaptation of x-ray volume to the needs of the individual case.

To be of any use at all, preoperative roentgenization should be vigorous enough to inhibit the malignant elements, and as the relative vital resistance capacity of these varies in different cases, what would be a sufficient radiation in one case would not be sufficient in another, would be more than sufficient in still another, and, in an occasional case, would be enough to inflict serious harm. The only efficient method, then, would be to give the maximum radiation always so that every case would be sure of having enough, and, as we have seen, this involves certain injury to many cases. If the maximum is not always given, however, injury will just as certainly be inflicted on those for whom anything less than the maximum is not enough.

Another fact which tends still further to increase the uncertainty regarding the dose, hence the danger, of preoperative radiation, is that the indication that radiation has been excessive (dermatitis) does not usually appear until two weeks after the injury was actually inflicted. A beautiful course of preoperative radiations, then, might be perpetrated, the operation be performed, and just at the height of the healing process a severe x-ray necrosis develop with all its vicious potentialities for one who has demonstrated his vulnerability to cancerous degeneration.

The same argument applies against postoperative raying before the wound has healed. Gangrene of healthy flaps has been caused by raying too soon. When it is not attempted to secure union, as after curettement, when seizable open wounds are left to heal by granulation, radiation may, in most cases should, be commenced immediately. But when union within a reasonable time is probable the application should be delayed until it is practically complete.

3. If effective preoperative radiation were devoid of danger, the delay of operation involved would not be objectionable, but we have seen that this is not the case. Just so long as the ablative procedure is put off, by just so much will the time period during which sound tissues are threatened, be increased. This factor of delayed operation will not be important in many cases, perhaps, but it will in some; hence, as little, if any, demonstrable advantage accrues therefrom, it would seem as though little could be urged in favor of submitting the patient to the extra risk.

A final word may properly be said regarding the operator who is to be selected to apply the x-ray therapeutically. A good radiographer is by no means necessarily a good radiotherapeutist, any more than a good house-carpenter is necessarily a good cabinet-maker. The two use the same tools, to be sure, and have to use them with high degrees of skill, but the temperamental requirements and the technic involved in the two callings are vastly different. The efficient radiotherapeutist needs to be endowed with a fund of clinical knowledge and a faculty for clinical observation, and with a courage, patience, and good judgment that apply in but slight degree in connection with the good radiographer. Then, again, the radiographer, in the city, has so much diagnostic work to do that he cannot devote sufficient time and study to radiotherapy to get the best out of it. The radiotherapeutist, in the city, is similarly situated as regards radiography. The country districts do not furnish enough material to develop first-rate specialists in either line. As a matter of fact it may be interesting to know that those competent to judge estimate the number of competent radiotherapeutists in the United States to-day as less than forty.

Great pains, then, should be taken to send patients who are to be roentgenized to some one who is profoundly versed in the technic, and thoroughly experienced in the practice of roentgenotherapy. If any other has been entrusted with its application in a given case and good results have not followed, the method should not be blamed, but the responsibility placed where it belongs and a competent operator selected the next time.

TRANSMISSION OF A MALIGNANT NEW GROWTH BY MEANS OF A CELL-FREE FILTRATE*

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A tumor of the chicken, histologically a spindle-celled sarcoma, has been propagated in this laboratory since October, 1909,[1] and in the past few months has developed extreme malignancy.[2] From a bit inoculated into the breast muscle of a susceptible fowl there develops rapidly a large, firm growth; metastasis takes place to the viscera; and within four to five weeks often the host dies. The behavior of the new growth has been throughout that of a true neoplasm, for which reason the fact of its transmission by means of a cell-free filtrate assumes exceptional importance.

EXPERIMENTS

For the first experiments on the point use was made of ordinary filter-paper and the ground tumor suspended in Ringer's solution. It was supposed that the slight paper barrier, which allows the passage of a few red blood-cells and lymphocytes, would suffice to hold back the tumor and render the filtrate innocuous. Such has been the experience of other workers with mouse and dog tumors. But in the present instance characteristic growths followed the inoculation of small amounts of the watery filtrate, and followed also the inoculation of the fluid supernatant after centrifugalization of a tumor emulsion.

These results led to more critical experiments, which will be here detailed. Tumors of especially rapid growth and young, well-grown, barred Plymouth Rock fowls were used throughout.

EXPERIMENT 1.—Tumor material from the breast of Chicken 92 (tumor generation 6 A) was ground with sterile sand, suspended in a considerable bulk of Ringer's solution, and shaken for twenty minutes in a machine. The sand and tumor fragments were separated out by centrifugalization in large tubes for five minutes at 2,800 revolutions per minute. Of the supernatant fluid a little was pipetted off, and this centrifugalized anew for fifteen minutes at over 2,000 revolutions per minute. From the upper layers sufficient fluid for inoculation was now carefully withdrawn. The pure-bred fowls were injected in one breast with 0.2 c.c. of the fluid, in the other with a small bit of tumor tissue. All developed sarcoma at the site of this latter inoculation, and in seven the same growth slowly appeared at the point where the fluid had been injected.

EXPERIMENT 2.—Tumor from Chicken 90 (tumor generation 6 A) was ground, suspended, and shaken as before. But after one centrifugalization the fluid was passed through a Berkefeld filter No. 2 (coarse). Before filtration, it was pinkish-yellow, cloudy; afterwards, faintly yellow, limpid. Nine fowls were inoculated with 0.2 c.c. of the filtrate in each breast, and twenty-two more received filtrate in one breast, a bit of tumor in the other. Of the nine, one slowly developed a sarcoma in each breast, and later microscopic growths were found in its lungs. Of the twenty-two receiving both filtrate and tumor, five developed sarcoma where the filtrate had been injected, and these five showed especially large growths from the tumor bit.

The Berkefeld filter employed was later found slightly pervious to *Bacillus prodigiosus*.

EXPERIMENT 3.—The filtrate was similarly prepared except that a small Berkefeld filter (No. 5 medium), impermeable to *Bacillus prodigiosus*, was used. As before, the filtration was done at room temperature. Fowl 124 (generation 7 A) furnished the material. Twenty chickens were inoculated in each breast with the filtrate, but none have developed tumors.

EXPERIMENT 4.—In this experiment the material was never allowed to cool. About 15 gm. of tumor from Chicken 140 (generation 7 B) was ground in a warm mortar with warm sand, mixed with 200 c.c. of heated Ringer's solution, shaken for thirty minutes within a thermostat room, centrifugalized, and the fluid passed through a filter similar to that used in Experiment 3. Both before and after the experiment, this filter was found to hold back *Bacillus prodigiosus*. The filtration of the fluid was done at 38.5 C., and its injection immediately followed. In four of ten fowls inoculated with the filtrate only (0.2 to 0.5 c.c. in each breast) there has developed a sarcoma in one breast; and though the growths required several weeks for their appearance their enlargement is now fairly rapid. Pieces removed at operation have shown the characteristic tumor structure.

CHARACTERS OF THE TUMOR

As has been pointed out, the special significance of these results lies in the growth's identity as a tumor. The original sarcoma was found as a unique instance in a flock of healthy fowls; and, though susceptible normal chickens and others with the tumor have since been kept together in close quarters for long periods, no instance suggesting a natural infectivity of the growth has occurred. When inoculated, it is at first a local disease, very dependent on the good health of the host. At this time intercurrent illness of the fowl will check the nodule's growth or even cause it transiently to disappear. For long the sarcoma could be transferred only to fowls of the same pure-bred variety in which it arose, and this only in an occasional individual; but like many tumors, it has gained on repeated transplantation a heightened malignancy, and the power to grow in other varieties of the same animal. Yet in these it does not do well; and it has not been successfully transplanted to other species.

Histologically, the growth has always consisted of one type of cells, namely, spindle-cells in bundles, with a slight, supporting, connective tissue framework. The picture does not in the least suggest a granuloma; and cultures from the growth remain sterile as regards bacteria. At the edge of the invading mass there is often practically no cellular reaction, but lymphocytes in small number may be present, as is common with tumors in general. Metastasis takes place early, through the blood-stream, and the secondary nodules have the same character as the primary. Several instances of the sarcoma's direct extension into vessels have been encountered. The secondary growths are distributed especially to the lungs, heart and liver, and in the last organ are sometimes umbilicated. The host becomes emaciated, cold and drowsy, and shortly dies.

Transplantation experiments with the tumors resulting from the filtrate are at present under way. The tumor of Experiment 2, which arose in the fowl that received filtrate alone, has already been successfully transplanted.

Sixty-Sixth Street and Avenue A.

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. Jour. Exper. Med., 1910, xii, 696.
2. Rous, Peyton: Metastasis and Tumor Immunity: Observations with a Transmissible Avian Neoplasm, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1805.

Length of Treatment of Syphilis.—The first two years' treatment is the most important period for the patient and on its thoroughness depends largely his future well-being. Treatment should be actively pursued for at least five years; that is, the treatment should be persistent for three years, less energetic during the next two. The patient should be under observation the next several years. In fact, it is best for the patient to undergo treatment for three or four weeks each year during his lifetime.—A. G. Nadler, in *Yale Medical Journal*.

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PYELITIS GRAVIDARUM

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Although pyelitis gravidarum is not a very rare disease, it occasionally presents certain difficulties in differential diagnosis, for which reason the following case may be of interest:

History.—Mrs. P., aged 35, a sextipara, had easy and normal pregnancies and labors with the first four children; in the fifth and sixth pregnancies, however, she was severely ill, and to judge from her history the complications of the two pregnancies were identical. The patient came under my observation in the last two months of the sixth pregnancy. She said that she had had pneumonia and brain fever in the fifth month of the preceding or fifth pregnancy, and was confined to her bed until after her delivery, which occurred prematurely about the eighth month. She coughed incessantly throughout that time, and had periodical pains of excruciating character over the left side. She also had severe intestinal symptoms, as vomiting and tympanites. The pain in the left side was remittent and not intermittent. While she had "pneumonia" (?) she stated that she never expectorated blood or rusty sputum. Four weeks before delivery labor pains set in and with the gradual progress of labor there was a corresponding subsidence of her pains and intestinal trouble.

Present Illness.—Concerning the history of her present trouble, all I could learn was that the patient felt perfectly well during the interval and during first five months of pregnancy. In the sixth month the patient commenced to have pains, paroxysmal in character, in left side, occasionally accompanied by chills and fever. Before she came to the German Hospital her main symptoms were vomiting, chills, fever and pain. On admission, patient was greatly emaciated, with a hectic flush, severe, dry cough, and great dyspnea. Cough and dyspnea she had had only a few days. She also had retention of urine, later involuntary urination and defecation, and partial blindness, lasting a week. She asserted that she had the amaurosis in the previous attack also. Headache, and pain in the left hypochondrium, running down along the ureter, were present most of the time.

Examination.—Taking the left kidney between one's hands and making pressure, exquisite tenderness could be found. The same tenderness could be elicited by pressing along the course of the ureter at its lower part, of course intravaginally. Widal proved negative. Of great importance were the urinary findings: specific gravity, 1,010; urea, 0.5 per cent.; there were pus cells, epithelial cells, red blood cells, and almost pure cultures of the *Bacillus coli communis* present. I examined a great many specimens, with the same result. The colon bacillus was so predominating that its pathologic importance with regard to the etiology of this disease seemed obvious. Hemoglobin, 70 per cent.; whites, 14,600; reds, 5,752,000. Unfortunately, a bacteriologic examination of the blood was not made. I should not have been surprised if the colon bacillus had been found in the blood and the scanty sputum.

Treatment.—This was symptomatic; saline enemas, hexamethylenamin (urotropin) with distilled water. Buttermilk was the first article of diet which the patient retained, commencing with small quantities—2 ounces—and gradually increasing to 8 ounces three times daily. As soon as the head of the fetus descended, symptoms abated, and with commencement of labor, lasting twenty-four hours, which also in this instance was premature, the patient improved rapidly, and appeared past the crisis, as it were, as soon as the child was delivered. She was able to nurse her child, which weighed 4¾ pounds at birth, and left the hospital sixteen days after confinement, practically well. The urine was found to be normal soon after labor.

We have two varieties of pyelitis in connection with pregnancy: first, the pyelitis occurring during pregnancy, often of ascending gonorrheal origin, or caused by cystitis existing before pregnancy, and possibly also caused by the colon bacillus which ascended from the anus, as Scheidemandel pointed out; second, pyelitis of pregnancy, pyelitis gravidarum, having pregnancy as its exciting cause, and with, in the majority of instances, complete recovery after labor.

There are two theories as to the avenue of infection of the kidneys. One is that the infection ascends from the external genitalia through bladder and ureter; the other that the infection is carried in the blood and localizes in the kidney as a *locus minoris resistentiæ*.

That the gastro-intestinal disturbances (regular symptoms of this disease, and unusually prominent in this case), are of etiologic importance, is beyond peradventure. A great many observers lay much stress on the mechanical state of affairs during pregnancy as a contributing factor, namely, pressure on the ureter, especially the right, by the head of the child. The fact is that in most cases on record, as also in mine, the symptoms left the patient as the head descended and pressure was relieved.

The terrific cough, lasting two and a half months in the former and one month in last pregnancy, and quickly leaving the patient on delivery, possibly was due to colon bacillus infection of the respiratory tract. In most cases the right kidney was affected, which was explained by the fact that the uterus leans toward the right side, the sigmoid protects the left ureter, and the presentation is mostly occipito-left anterior.

Whether the presentation in my case, occipito-right anterior, had anything to do with the left kidney being affected, I would not venture to say. The diagnosis is, of course, more difficult in dextrolateral pyelitis, the disease being very apt to be mistaken for appendicitis, gall-stones or typhoid. The tenderness over the kidney and along the course of the ureter, especially the pelvic portion, felt through the vagina, and the urinary findings, especially presence of the colon bacillus, ought to be sufficient to clear up the diagnosis.

34 Washington Street.

ABDOMINAL DIPHTHERIA

B. C. EVERALL, M.D., WATERLOO, IOWA

A case of abdominal diphtheria recently reported is of interest because of its rarity; it reminds me of a case of mine which presented similar symptoms.

The patient, a boy, age 6, was in my care for nasopharyngeal diphtheria, from which he was apparently convalescent at the seventeenth day of the disease. At that time his pulse was 96 and his temperature 99.2. On this day he vomited twice. One ounce of castor oil was given and retained, but vomiting returned and became almost constant. The pulse was 158; temperature 103 F. Six hours later the temperature was 104.5 F., and pulse 170. The abdomen was distended and tender, especially below the navel. The patient vomited a dark green material. An enema was given and followed by much gas and only a slight coloring to the returned fluid. At this time, most alarming respiratory and circulatory symptoms appeared. The respirations were hurried and regular, and then suddenly ceased, while the pulse and heart-sounds became imperceptible and the face cyanotic, the whole attack lasting one to two minutes. Two doses of antitoxin were given, followed by rapid abatement of symptoms. Two days after the last dose of antitoxin, following a dose of calomel and an enema, the patient passed a large amount of foul and bloody feces, containing a necrotic membrane, 3 inches long, having the appearance of a cast of some part of the gastro-intestinal tract below the pharynx. The patient made a slow recovery, developing an extensive paralysis with a persistent high pulse-rate and obstinate constipation.

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SATURDAY, JANUARY 21, 1911

EXPERIMENTAL CIRRHOSIS OF THE LIVER

Perhaps no disease presents more difficult problems in its etiology and pathogenesis than does cirrhosis of the liver. Experiments have shown that various toxic substances administered to animals produce degenerative changes in the liver, and that when this administration is prolonged for a considerable period, increase of the interstitial tissue follows. Nevertheless, the results of such experiments have been inconstant, and the lesion which has been obtained has rarely possessed the clinical and anatomic characters of the cirrhosis common in man. Alcohol, particularly, although its abuse has been recognized clinically as a cause of cirrhosis in man, has not been found to produce experimentally in animals the pathologic condition of the liver found in human cirrhosis.

E. L. Opie[1] in his experiments has shown that bacteria in association with toxic substances having a special affinity for the liver, such as chloroform and phosphorus, may produce changes which neither the poison nor the bacteria can cause when acting alone. The possibility that disturbances of metabolism in man may produce changes in the liver similar to those caused by such poisons is well illustrated by the toxemia of pregnancy, in which persistent vomiting is associated with central necrosis of the hepatic lobule similar to that caused by chloroform. The experiments show that the activity of a hepatic poison may be so intensified by bacterial infection that a quantity of the poison which alone produces little change, may, in combination with *Bacillus coli* and *Streptococcus pyogenes*, cause destruction of almost the entire hepatic parenchyma. Some bacteria (*e. g.*, colon bacilli), which have little pathogenicity for the normal animal are virulent for the animal whose liver has been injured by chloroform or phosphorus. It is possible that those instances of acute yellow atrophy which accompany infection with *Streptococcus pyogenes* are dependent on some disturbance of metabolism or other form of intoxication which has rendered the liver unusually susceptible.

1. Opie, Eugene L.: Proc. Path. Soc. Philadelphia, September, 1910.

The experiments, furthermore, show that bacterial infection can influence and even determine the development of cirrhosis of the liver. Degenerative changes which usually undergo rapid repair may cause sclerosis when combined with bacterial infection. Whereas cirrhosis may be caused by chloroform without bacterial inoculation, the introduction of bacteria hastens the progress of the chronic change. The poison in large quantity rapidly causes death, but a much smaller quantity in association with a relatively non-pathogenic microorganism produces a lesion from which recovery is possible. Such insults repeated at intervals produce the chronic changes of cirrhosis. By the administration of chloroform, accompanied by intravenous inoculation with *Bacillus coli*, it has been possible to produce advanced hepatic cirrhosis accompanied by active new formation of bile-ducts within a period of twenty-three days. The experiments have shown that in this way it is possible to produce a portal obstruction comparable to that which occurs in the atrophic cirrhosis of man.

This experimental work suggests the explanation of the fact that some alcoholics escape cirrhosis, while temperate persons and even total abstainers sometimes develop the disease. In the latter cases we may assume that the toxic element of the etiologic combination arises from the production of poisons inside the body.

PASTEURIZATION OF MILK

The present wide-spread campaign for a clean milk-supply has brought about a more or less heated controversy between those favoring and those opposing the pasteurization of milk. The former contend (1) that there is protection from pathogenic bacteria; (2) that the reduction of numbers lessens infantile mortality; and (3) that the keeping qualities of the milk are thereby enhanced. The opponents contend that (1) pasteurization kills all acid-forming bacteria, which would, according to their view, protect the milk from pathogenic changes; (2) that bacterial toxins are not destroyed by pasteurization temperature; (3) that careless methods of handling milk are encouraged and dirt in milk is covered up; (4) that bacteria increase more rapidly in pasteurized milk than in raw milk; and (5) that undesirable changes take place by pasteurization.

Bulletin 126 of the U. S. Agricultural Experiment Station, Bureau of Animal Industry, recently published, reports a mass of work which throws new light on many phases of pasteurization and overthrows many prejudices against it. The samples for the experiments were collected from commercial pasteurized milk, and the results, therefore, are of eminently practical value. The bacteria in pasteurized and raw milk were studied by grouping them into three classes: (1) acid-forming bacteria; (2) peptonizing or liquefying (putrefactive) bacteria; (3) inert bacteria.

It was found that many acid-forming bacteria are not destroyed below 75.6 C. (168 F.), so that pasteurized milk turns sour the same as raw milk, although the process is somewhat delayed. Liquefying bacteria, which form spores and therefore survive pasteurization, have been believed by some to produce toxins detrimental to health. The bulletin shows that there are fewer bacteria of this kind in pasteurized milk than in raw milk, and that they do not multiply rapidly. The numerical relation of the three groups is practically the same as in raw milk, and the cleaner the milk the more closely does this relation resemble that in pasteurized milk. Acid-forming bacteria are scarce in certified milk and can be found only by special methods. The same condition is found in pasteurized milk. The acid development in an efficiently pasteurized milk is about the same as in clean raw milk, but in less efficiently pasteurized milk the position of the groups is more like the relation in dirty milk.

No investigation is reported on the influence of pasteurization temperature on toxins, but it is not known that toxins are formed under ordinary conditions; many toxins are destroyed at relatively low temperatures. Careless methods need not be encouraged by pasteurization, if an adequate dairy inspection is provided for. No milk should be used under any conditions if it comes from a dairy with a score of less than fifty points, according to the method of rating dairies adopted by the government.

The objection that bacteria multiply more rapidly in pasteurized milk than in raw milk is shown to be erroneous. Comparisons between both kinds of milk with approximately the same numbers of bacteria show an equal rate of multiplication. It seems that the smaller the number of bacteria present the more rapid the multiplication, whether it be in raw or pasteurized milk. As to the objectionable changes taking place during pasteurization, there is no evidence of such changes, unless the milk is heated far beyond the temperature necessary for pasteurization. The authors conclude that pasteurization which holds the milk at a temperature of 145 F. for thirty minutes is the most practical method. This is known as the holding process, in distinction from the flash process, which heats the milk momentarily to 185 F. The latter method has many disadvantages and is not so effective as the former.

Considering the low counts of bottled pasteurized milk, and the similarity of the bacterial group proportions to those of clean raw milk, the authors think that the former not only cannot be classed, from a bacteriologic point of view, as inferior to commercial raw milk, but that it presents distinct advantages over the raw product in the keeping qualities of the milk, in the protection from pathogenic bacteria and consequently in the lessening of infant mortality. The last of these considerations, of course, is the most important, since it represents the object to be attained.

THE CRIMINAL CLASS AND THE SO-CALLED CRIMINAL TYPE

It is scarcely more than a year since Lombroso died. Within a week or two of the anniversary of his death, the International Prison Commission sitting in Washington listened to a sweeping repudiation of the theory that criminals are members of a distinct class, marked with certain atavistic physical characteristics, and endowed with an innate tendency toward crime. Sir Evelyn Ruggles-Brise,[1] president of the British Prison Commission and president-elect of the International Prison Commission, says that examinations of three thousand of the worst convicts in England, including measurements, family history and mental and physical characteristics, have failed to confirm the existence of a criminal type; "and in fact," he says, "both with regard to measurements and the presence of physical anomalies in criminals, these statistics present a startling conformity with similar statistics of the law-abiding classes."

The disagreement between penologists like Ruggles-Brise and the Italian school of criminal anthropology seems to be in part a matter of nomenclature and definition. The "criminal anthropologists" are trying to cram a new concept, scientific *ex hypothesi*—but not yet so defined that he who runs may read—into the word "criminal," meanwhile unceremoniously ignoring its accepted legal definition and meaning. When Lombroso says[2] that crime among savages is not the exception but the rule, and that in its origins crime is mingled with the least criminal actions, those who have the accepted legal concept of crime in mind at once reject the statement as false; and the cautious nonpartisan, lacking an authoritative statement of the Lombrosan criterion of crime, is reluctant to draw any conclusion more final than that Lombroso certainly did not intend the legal definition. The current non-legal meaning, of course, is too vague and unscientific to be of use.

According to the only precise accepted definition, the word "criminal" denotes a person who has committed a public offense, or crime. The word thus makes no pretension to being scientific, but it is practical and indispensable. But nothing is a crime in any exact sense except what the law declares to be such; and therefore the content of the word "crime," while roughly constant along certain main lines, varies in detail according to the age in which and the people by whom it is applied. As Wines says,[3] "that which is permanent and abiding in human nature constitutes its larger part; but there is enough that is evanescent to impart a transitory character to many alleged crimes." At the period when it was a crime for an English laborer to

1. Ruggles-Brise, E.: The New World and Crime, Survey, Nov. 5, 1910, p. 181.
2. Lombroso, C.: L'homme criminel, second French edition, Paris, 1895, Félix Alcan, i, 35.
3. Wines, F. H.: Punishment and Reformation, New York, Thomas Y. Crowell & Co., p. 23.

catch fish in preserved waters, and for an English tradesman to attempt to corner the market, piracy might be legalized by letters of marque issued by any civilized state, and therefore was not necessarily a crime. These instances, extreme as they seem, are drawn from a not very remote past; and probably few would assert that even now our criminal laws present anything like scientific consistency. The law is a bludgeon of defense, rather than an instrument of scientific precision.

Penologists, however, deal, not with criminals as such, but with convicted criminals—that is, with prisoners. For them, the word "criminal" practically means a person to whom twelve totally unskilled persons have applied that somewhat arbitrary and altogether unscientific definition. One might naturally expect prisoners to exhibit points of inferiority when compared with useful members of society; but, since the accepted definition of the criminal is no more scientific than the definition of the butcher, the baker or the candlestick-maker, and since prisoners are selected from among criminals by a process scarcely more scientific than that by which jurors are selected from among law-abiding citizens, *a priori*, why should we expect the inmates of prisons to present common biologic characteristics even if they do present common social characteristics? The relief with which Ruggles-Brise greets evidence tending to overthrow what he calls the "vulgar superstition" that the criminal is a being of a special type may therefore be appreciated, even by those who still reserve judgment on the question of hereditary defect as one cause of antisocial conduct.

Lombroso, it will be remembered, never asserted that born or atavistic criminals constituted the mass or even the majority of lawbreakers; he admitted the existence of criminals who were developed by opportunity. He claimed to find the "criminal type" in 40 per cent of criminals; but, we believe, he reduced this percentage still further before his death. The question which he assumed to answer in the affirmative may be formulated, for lack of a more authoritative statement, in some such words as these: Is there a definite type of individual in whom exists, correlated with certain atavistic physical characteristics, a tendency to revert to types of conduct once usual and normal, but now generally reprobated as antisocial? Individuals of such type might be expected naturally, though not necessarily or inevitably, to come into conflict with the law; and similarly the law-breaking classes might be expected to comprise more of such retrograde individuals than do the law-abiding classes; but the problem presented by such degenerates is not identical with the problem of the criminal in the legal sense. Confusion between the material and the terms of the scientific problem of the "criminal anthropologist," on the one hand, and the material and the terms of the practical problem of the penologist, on the other, is a misfortune for which the former is apparently responsible through his unrightful appropriation of the term "criminal."

Ruggles-Brise asserts that the idea that the criminal is the product of heredity—of the remote past—has paralyzed efforts at reform. On this account especially, the disentanglement of the two problems—the practical problem of the lawbreaker and the scientific problem of the degenerate—seems desirable and important. Whether Ruggles-Brise is right in his rather harsh and peremptory denial of the whole of Lombroso's theory is a question for the anthropologists to settle. Meanwhile, it is to be hoped that the adoption of the more fruitful and hopeful conception of criminality (in the non-Lombrosan sense) as the product mainly of environment, and hence of forces within reach here and now, may give an impetus both to reform of the criminal and to prevention of crime.

Current Comment

CENTRIFUGAL EDUCATION

A recent address by Professor Osborn[1] contains truths which are quite as equally applicable to medical education as to any other department of learning. Professor Osborn uses the term "centrifugal" education in speaking of the training of students to give out, to construct or to develop new ideas, as compared with the mere learning and memorizing of facts, which he designates as "centripetal" education. The real object of education is certainly better fulfilled by the former method. The value of education, a genuine culture, does not depend on what one takes in, but on the use one makes of what he learns, on what he gives out. "One little idea of your own well expressed has a greater culture than one hundred ideas you absorb." So the man of true culture will always be the man who is using his learning, his reason and his observations in an effort "to add something of his own to the stock of the world's ideas." Clearly the chief object of education should be to develop productive thinking, to get the student to make practical use of what he has learned. Such constructive thinking should be encouraged at the very beginning of the student's career and not postponed until after his graduation. Instead of interfering with the student's learning and memorizing of facts, centrifugal education will lead him on to greater effort and, by an inductive process, enable him better to grasp other related facts. Not only will the student better appreciate the value of knowledge, but he will also be able more easily to memorize what he reads if at the same time he is taught to make use of that knowledge. To stimulate this constructive thinking different methods have been employed. Some teachers, like the great embryologist, Francis Blair of Cambridge, England, write joint papers with their students. Others urge their students to do original research and to write original articles, the best of which are read before some special society and published in its transactions. Following the method of Langdell in teaching law, Professor Osborn has his students in turn give the lectures

1. Huxley on Education, Columbia Univ. Quart., December, 1910.

while he listens and makes comments. After all, "the measure of a teacher's success is the degree in which ideas come, not from him, but from his pupils." In no profession is the possession of fully developed powers of observation and of prompt, logical and productive thinking more important than in the practice of medicine. A centrifugal education for everyone who enters the medical profession would insure, not only more prompt and accurate diagnosis, but also the selection and use of the most rational and beneficial means of treatment.

THE "FITTING" OF GLASSES

The author of a recent article[1] describes her experience in visiting fifteen five-and-ten-cent stores in a large city where a pretense is made of fitting glasses by means of test cards. The card contains type of different sizes, the largest at the top, each line numbered. The customer was directed to hold the card about fourteen inches from the eye and to read down until she reached the finest type that could be read without glasses. Then the glasses corresponding to the number opposite the line were the ones said to be required. The author describes her case as one of "unsymmetrical myopic astigmatism with subnormal accommodation," for which she had already been given the proper correction by an ophthalmologist. The glasses purchased varied from a + 6.75 to + .50 and were, of course, the same for both eyes, except in one instance, in which the pieces of glass were so badly ground that "they represented one thing in one spot and something quite different in another." It is needless to say that this patient could see nothing with any of the glasses; all of them were for far-sighted eyes, whereas her eyes were myopic. She concludes that perhaps she is not a fit subject to buy ten-cent-store glasses. Investigation showed that large numbers of people were "fitted" with these glasses. One store reported selling as many as six dozens a day. Though we may not subscribe to the long list of ailments which some ascribe to eye-strain, the positive injury done and perpetuated by allowing such absurd methods to be employed on so important an organ as the eye is a rather serious matter.

THE PREVARICATOR'S PREDICAMENT

Physicians the country over are familiar with a little publication that is sent to them at more or less regular intervals called *"La Tribune Médicale* (American Edition)." The only apparent mission this "journal" has is that of advertising the products of Fougera & Co. from which house, presumably, it emanates. In its January, 1911, issue, which contains no other advertisements than Fougera's, is an editorial discussing the federal Food and Drugs Act. The remarkable attitude is taken that, since the pure food law will not permit lying statements to be made (on the label) about medicinal preparations, therefore, therapeutic progress is greatly hampered. A case is described of a firm which is alleged to have put out a preparation "in an ultra-ethical manner." "No exaggerated statements were made, its chemical formula and its properties were given," etc. But, alas, the conservatism and moderation —for, of course, it could not be lack of merit—were such as to prevent the preparation becoming a success. As a result "the firm in question, therefore, withdrew their product from the market in disgust." The moral of all this is summed up by the editorial writer in the following peroration:

> "This shows, we think, that, much as we must deplore it, it is necessary, even with such trained men as physicians, to make dogmatic statements and actually to magnify claims in order to get attention, and if this is so with the medical profession, how much more will it be necessary with the public? Mild, reasonable and modest statements fall flat, and since no exaggerated statements will be tolerated in the future on account of the 'misbranding clause' of the Food and Drugs Act, it looks very much as if enterprise and progress in this direction must cease."

It seems then, that, in the United States, "enterprise and progress" are incompatible with truth and honesty. Prevarication is the price of progress! Honesty is the worst policy! Now we understand, perhaps, why in the past Fougera & Co. advertised that Santal Midy "cures in 48 hours" and that diabetes is "surely and rapidly cured by Vin Uranè Pesqui." Evidently this firm's desire to aid ailing humanity—and incidentally increase the box receipts—was strong enough to overcome any scruples it may have had against lying. It was a case of choosing the less of two evils. We are glad to say that we have sufficient confidence in the ultimate status of drug therapy to hold the opinion that any remedy of real merit may safely count on coming into its own without being introduced by means of the persuasive fiction of the prevaricating press agent. That many a worthless product has enjoyed a vogue and helped swell the profits of its manufacturers simply because an artificial demand was created by the use of printer's ink, we must sorrowfully admit. In fact, it is a sorry commentary on modern methods of introducing medicinal products that it should be thought necessary not only to apologize for untruthfulness in exploitation but also to insist that only by falsehood can success be assured. The outlook for therapeutics must seem very black to the editor of this advertising periodical, for, in spite of the cramping restrictions put on pharmaceutic houses by making it actually illegal to lie about their products (on the label), we believe that the Food and Drugs Act meets with pretty general approval and that it is here to stay. We are optimistic enough to believe that pharmaceutic manufacturers generally will meet the exigencies of this case in the true American spirit which always finds a way around or over obstacles. To such firms as feel hampered by the requirements of the pure food law we respectfully suggest a remedy: Tell the truth about your products and let therapeutic progress take care of itself. The results, we venture to say, will be as much a surprise to the firms themselves as their change of attitude will be to the medical profession. Great is truth and it shall prevail!

1. Greene, Lilla A.: Eye-Strain and the Ten-Cent Store, The Survey, Nov. 19, 1910, p. 299.

Medical News

ILLINOIS

Personal.—Dr. Charles L. Patton, Springfield, has succeeded the late Dr. John A. Prince as a member of the staff of the David Prince Sanitarium.——Dr. Robert H. Bell, Carlinville, has been chosen physician of Macoupin County.——Dr. James L. Funkhouser, Chrisman, sustained painful bruises in a runaway accident, January 5.

Occupational Poisons.—The report of the Occupational Diseases Commission, which has been sent to the general assembly, states that thirty distinct poisons constantly menace the life and health of factory workmen of Illinois. Lead is by far the most important industrial poison, but risk from this cause may be almost entirely eradicated by the prevention of dust, by prohibiting eating with unwashed face and hands, and by preventing workmen from going home with lead on their clothing and bodies. Reports are also included on the effects of brass fumes and carbon monoxid gas.

The Governor's Message.—The governor, in his biennial message, suggests that the legislature give the matter of a state sanatorium for consumptives careful consideration; recommends that a law be enacted providing for better methods of registration of vital statistics to be in conformity with those adopted by the leading states and the provisions of the census bureau of the United States government; calls the attention of the general assembly to the need of the revision of that section of the medical practice act of Illinois which enables the board to revoke certificates of physicians for unprofessional or dishonorable conduct, recommending that an amendment be now enacted empowering the board to revoke licenses of any practitioner whether licensed prior to or subsequently to July 1, 1899. He also repeats the recommendation made to the previous general assembly that appropriations for the free distribution of diphtheria antitoxin be continued.

KANSAS

Hospital Cornerstone Laid.—The cornerstone of the new Bethany Hospital, Kansas City, was laid recently with appropriate ceremonies. The building is to cost $160,000, will be five stories and basement in height, and will accommodate 153 patients.

Personal.—In a fire at Moline, January 11, which destroyed property valued at $50,000, Dr. John W. Farrow suffered the total loss of his office.——Dr. A. L. Shelton and family, formerly of Anthony, have returned after a seven years' sojourn in West China and Thibet.——A fire, January 2, in Wichita, caused damage of $135,000, and destroyed the office and equipment of Drs. Ernest E. Hamilton and Harry A. Johnson. ——Dr. George W. Davis, Ottawa, is reported to be seriously ill.——Dr. Lincoln W. Griffin, Fort Scott, sustained serious injuries in a runaway accident, December 26.——Dr. George M. Covert, Arkansas City, is reported to be seriously ill.

KENTUCKY

Hookworm in Kentucky.—To ascertain whether the hookworm thrives in Kentucky, the State Board of Health has decided to extend the Rockefeller Commission an invitation to send a representative to the state.

Physician Secures Verdict Against Physician.—Dr. Robert E. Gatz, Louisville, is said to have secured a verdict of $777 against Dr. Clarence H. Harris, Louisville, whom he sued for $25,027. The plaintiff claimed that he had him arrested for malice in a dispute over a street car case.

Favors Milk Fund.—An ordinance introduced at the meeting of the Louisville City Council, January 4, appropriating $1,500 to the Babies' Milk Fund Association was referred to the health committee, which reported favorably at a meeting, January 10, but so amended it as to increase the appropriation to $2,000.

Personal.—Dr. William A. Jenkins, Louisville, has been elected visiting physician to the School of Reform, vice Dr. William Bailey, resigned.——Dr. J. Rowan Morrison has been appointed a member of the Louisville Milk Commission, vice Dr. John W. Blanton, deceased.——Dr. Thomas W. Gardiner, Hopkinsville, has been reappointed a member of the State Board of Control of Charitable Institutions.

The Distillery Slop Question.—The State Board of Health has issued an order that all distilleries feeding slop to cattle must so regulate it that none of the pollution can run into a stream of even the smallest size, provided that stream finally reaches a river or other stream from which water is taken for drinking purposes. A committee from the board has been appointed to decide how long a time constitutes a reasonable time in which to comply with the rules of the board. Frankfort is the city most vitally interested in the enforcement of this rule as the water from the Kentucky river is contaminated by distilleries located above the city.

MARYLAND

Scarlet Fever Prevalent.—Dr. Warren P. Morrill, Baltimore, superintendent of the Sydenham Hospital for Infectious Diseases, reports that the institution is full and that further cases must be refused. Scarlet fever has been exceedingly prevalent since the first of December and cases of that disease only have been admitted to the institution.——A second outbreak of scarlet fever is reported at Western Maryland College, with six cases. The college was closed on account of the first outbreak, December 1.

Personal.—Among physicians recently elected bank directors are the following: Drs. Charles S. McCauley, J. McPherson Scott, Edward A. Wareham and O. H. William Ragan, Hagerstown.——Dr. Thomas R. Boggs, formerly chief resident physician at Johns Hopkins Hospital, Baltimore, has assumed the duties as physician-in-chief at Bayview Asylum; Dr. Gordon Wilson, as physician-in-chief of the Tuberculosis Hospital; Dr. H. D. Purdon, as physician-in-chief of the Insane Hospital, and Dr. Milton C. Winternitz, as pathologist-in-chief.——Dr. Henry M. Baxley has been appointed assistant house physician, and Drs. Edward E. Mackenzie and Edmund A. Munoz, assistant physicians on the staff of the Baltimore General Dispensary.——Dr. John M. T. Finney has been appointed a member of the Baltimore school board.

MICHIGAN

Honor Dr. Burr.—A dinner was given by the Genesee County Medical Society, December 20, in honor of Dr. Colonel B. Burr, Flint, president of the state medical society, in honor of his recent election and in recognition of his labors in the local organization. About fifty physicians were present.

To Save Medical Building.—The alumni of the University of Michigan are endeavoring to raise $50,000 to preserve the old medical building, one of the oldest on the campus, as a memorial to the medical department. The amount required will practically reconstruct the building from the inside without changing the outside appearance. The intention is to make the building a medical library and museum.

The Governor's Message.—Governor Osborn, in his inaugural address, notes the multiplication of state boards. There are eight boards whose titles, at least, relate to the public health, and most of these could be incorporated in the State Board of Health. The Board of Examiners of Barbers should, he believes, be abolished, and its work put in the hands of the State Board of Health. He approves of state legislation holding publishers accountable for printing palpably dishonest and fraudulent announcements.

Personal.—Dr. Ross U. Adams, Kalamazoo, was accidentally shot in the left arm in a restaurant in Kalamazoo, December 30.——Dr. Louis Barth, Grand Rapids, was the guest of honor at a birthday dinner, January 3, at which a silver loving-cup, on which the autographs of the donors had been engraved, was presented him.——Drs. James F. Rumer, Davison, and Rowland H. Conner, Saginaw, have resigned from the State Pardon Board.——Dr. Oliver B. Campbell is about to open a private hospital in Ovid.——Dr. William P. Scott, Houghton, has been appointed local physician for the Duluth, South Shore and Atlantic Railroad, vice Dr. Henry W. Jones, resigned. ——Dr. James L. Passmore, Saginaw, who has been ill with septicemia, is reported to be convalescent.——Dr. Thaddeus H. Ames, Kalamazoo, has sailed for Europe.

MINNESOTA

Goldthwait in Minnesota.—Dr. Joel E. Goldthwait, Boston, made a short visit to Minnesota last month, delivered a lecture before a union meeting of the Ramsay and Hennepin County Medical Associations on "Our Present Conceptions of Rheumatoid Disease;" gave a clinic at the City Hospital, and was given a supper at the Town and Country Club by Dr. Alexander R. Colvin, St. Paul, the next evening.

Personal.—Dr. Howard Lankester has been appointed health officer of St. Paul, vice Dr. Gustav A. Renz. Dr. Lankester will assume office in March.——Dr. John E. Campbell has been reelected health commissioner of South St. Paul, and Drs. Llewellyn D. Peck, Hastings; James A. Sanford, Farmington; Thomas J. Gaffney, Lakeville, and Ernest W. Hammes, Hampton, physicians for Dakota County.——Dr. James Hynes, Minneapolis, has been appointed physician of Hen-

nepin County, vice Dr. Thomas T. Warham.——Dr. F. F. Wesbrook, dean of the faculty of medicine of the University of Minnesota, has resigned as director of laboratories for the State Board of Health.

Health Board Election.—At the annual meeting of the State Board of Health, held in St. Paul, January 10, Dr. William A. Jones, Minneapolis, was elected president, vice Dr. Henry Hutchinson, St. Paul, deceased.——Dr. Burton J. Merrill, Stillwater, vice-president; and Dr. Robert H. Mullen, Minneapolis, head of the state laboratory, vice Dr. Frank F. Wesbrook, resigned.——Dr. Henry M. Bracken, the secretary, in an address delivered before the Woman's Club of Minneapolis, January 3, gave an outline of the legislation which the board endorses. This includes a list of proposed legislative acts as follows: "Medical inspection in the public schools of the state; power to condemn unsanitary school buildings; compulsory reporting of tuberculosis; state aid for county sanatoria; clean bill of health required for children from homes where there is tuberculosis; segregation of tuberculous persons living in almshouses; to permit county commissioners to employ visiting nurses; increased salaries for superintendents of state institutions; state dog license law; and control of water and sewerage system."

MISSISSIPPI

Personal.—Dr. Hyman M. Folkes, Biloxi, has leased the Gulf Coast Health Resort on the Gulf of Mexico to Dr. William R. Card, his former associate, for three years. Dr. Folkes will continue to have a surgical service in the institution.——Dr. Robert L. Turner, Meridian, was shot and seriously wounded, December 3, by a nurse who had applied for, and had been refused, the position of superintendent of the institution.——Dr. George H. McNeill has been elected a member of the city council of Newton.

Society Meetings.—The Newton-Neshoba-Winston County Medical Society at its meeting in Newton, elected the following officers: president, Dr. Joseph N. Whittle, Union; secretary-treasurer, Dr. Sidney A. Majure, Dixon, and delegates to the state association, Drs. Inman W. Cooper, Newton; Daniel J. Rush, Philadelphia, and William W. Hickman, Noxapater. ——Harrison County Medical Society met at Gulfport and elected the following officers: Dr. George F. Carroll, Biloxi, president; Dr. Duke G. Mohler, Gulfport, vice-president; Dr. Benton Z. Welch, Wool Market, secretary-treasurer; Dr. Hyman M. Folkes, Biloxi, censor; and Drs. Edward C. Parker, Gulfport, and Walter H. Rowan, Wiggins, delegates to the state medical association.——At the annual meeting of Jefferson County Medical Society, held in Fayette, Dr. John C. McNair, Fayette, was elected president; Dr. Colon L. Simmons, McBride, vice-president, and Dr. John H. Carradine, Fayette, secretary-treasurer.——Warren County Medical Association, at its meeting in Vicksburg, January 10, elected the following officers: president, Dr. Hollie B. Wilson; vice-president, Dr. Charles E. Edwards, Jr.; secretary-treasurer, Dr. Ewing F. Howard; censor, Dr. George Y. Hicks, and delegate to the state association, Dr. William B. Dougherty, all of Vicksburg.

MISSOURI

Building for Physicians.—A thirteen-story building is being constructed in Kansas City at a cost of $600,000. The building is intended especially for the use of physicians and dentists, and will be ready for occupancy in the summer.

Antituberculosis Society Election.—At the annual meeting of the Buchanan County Society for the Relief and Prevention of Tuberculosis, held in St. Joseph, Dr. Oliver C. Gebhart was reelected secretary-treasurer, and Drs. Daniel Morton and Emmett S. Ballard, directors, all of St. Joseph.

Personal.—Dr. Addison M. Harrison, Lees Summit, has been appointed superintendent and physician of the Jackson County Home, vice Dr. G. Cleveland Hall, Lees Summit.——Dr. Alice Graham, Kansas City, superintendent of Mercy Hospital for Crippled Children, has taken a vacation for one year on account of ill health and has started for California.——Dr. Justin W. Lampson, superintendent of State Hospital No. 3, Nevada, has resigned on account of ill health and will return to his home in Neosho.——Dr. Michael R. Balliet, Pleasant Hill, was run over by a passenger train, January 10, sustaining injuries to the legs which necessitated amputation at the ankles.

Half a Million for Charity Hospital.—At a meeting of the congregation of the Independence Boulevard Christian Church, Kansas City, January 9, $519,000 was donated for a nonsectarian charity hospital. Of this, $400,000 is a conditional gift of R. A. Long, distributed as follows: $200,000 for grounds and initial buildings, provided $150,000 for endowment is raised on or before April 1; for years 1914 to 1917, inclusive, investment of $50,000 a year in additional improvements and equipment, provided there is raised from other sources an average of $62,500 a year. Among the principal contributors to the fund are Dr. William E. Minor, Kansas City, $20,000; Dr. John Bryant, Independence, $5,000; Dr. Harry H. Temple, Kansas City, $2,500, and Dr. Jabez N. Jackson, Kansas City, $1,000.

St. Louis

Alumni Dine.—The annual banquet of the Medical Society of the City Hospital Alumni was held January 5, at which the following officers, elected at the annual meeting, December 1, were installed: president, Dr. William H. Luedde; vice-president, Dr. Louis J. Oatman; secretary, Dr. Frederick C. Simon, and treasurer, Dr. Percy H. Swahlen.

Physicians Charged with Withholding Reports.—Suit has been entered against six physicians charged with failing to report cases of contagious disease.——For failure to report an alleged case of chicken-pox, Dr. Allie B. Wilburn is reported to have been fined $25 and costs, December 30. Dr. Wilburn declared the case one of urticaria and filed an appeal.

Personal.—Dr. Paul Y. Tupper, while attempting to cross the Mississippi River at Elsberry, broke through the ice and narrowly escaped drowning.——Dr. Edgar M. Senseney drove his automobile over a 40-foot sloping embankment into a ditch, December 25, but fortunately escaped injury.——Dr. F. E. Guibor, mayor of Maplewood, is ill with diphtheria.

Dr. Hare in St. Louis.—The Jefferson Medical College Alumni Society of St. Louis will hold its annual banquet January 28. Dr. Hobart Amory Hare, Philadelphia, will be the principal speaker. Dr. Hare will also address the St. Louis Medical Society on the same evening on "The Bearing of Old and New Facts on Our Conceptions of Cardiovascular Disease."——The Pennsylvania Society of St. Louis will hold its annual dinner, January 27, at which Dr. Hare will be present.

NEW YORK

In Memory of MacDonald.—In honor of the late Dr. Willis Goss MacDonald, Albany, it has been decided to erect a permanent memorial in the form of a laboratory building for scientific research to be a part of the equipment of the Albany Medical College in its new location.

Infantile Paralysis.—In the investigation of this disease in the state the State Health Department has secured the aid of the federal government and Passed Assistant Surgeon W. H. Frost of Washington has been detailed to investigate and make a report. Dr. Frost recently conducted the investigation of this disease for the government in Iowa.

In Memory of Pioneer Women Physicians.—The Woman's Medical Association of New York will meet on January 25 at 8:30 p. m. at the Academy of Medicine to honor the memory of Dr. Elizabeth Blackwell and Dr. Emily Blackwell. Addresses will be delivered by Drs. Stephen Smith, Abraham Jacobi, William H. Welch, William M. Polk, Dr. Emma B. Cuthbertson and Miss Alice Stone Blackwell.

Personal.—At a meeting of the managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, January 10, Dr. John Joseph Nutt, New York City, was elected surgeon-in-chief of the hospital, vice Dr. Newton M. Shaffer, New York City, resigned, to become chairman of the executive committee of the board of managers.——Dr. William B. May, Buffalo, has been appointed director of the division of communicable diseases of the State Board of Health.——Dr. Theodore C. Janeway, for eight years physician of the City Hospital, Blackwell's Island, has resigned.

Carnegie Laboratory Anniversary.—New York University celebrated the completion of the first twenty-five years of the work of the Carnegie Laboratory and the formal opening of the Carnegie Laboratory extension to which Mr. Carnegie contributed $75,000. Among the speakers were Drs. William H. Welch, Hermann M. Biggs and Jerome D. Greene. Dr. Egbert Lefevre, dean of the University and Bellevue Medical College, on behalf of the college, presented Mr. Carnegie with four volumes containing researches which have been published by members of the staff during the last few years. Mr. Carnegie intimated that an additional benefaction might be had for the asking. The new laboratory is six stories high and occupies a lot 25 by 100 feet.

OHIO

For Study of Bacteria.—The city council of Toledo has appropriated $1,000 for a bacteriologic outfit for the city health department.

Medical College Building Burns.—Fire, caused by an overheated furnace, completely destroyed the Toledo Medical College building, January 8. The loss is estimated at $25,000.

Personal.—Dr. James S. Berry, Peebles, is reported to be critically ill.——Dr. Edward W. Misamore, Cygnet, has been appointed coroner of Wood County, vice Dr. Dwight R. Canfield, Perrysburg.——Dr. Joseph W. Chetwynd, for four years an assistant physician at the Massillon State Hospital, has resigned and will practice in East Liverpool.——Dr. Ada Ford has resigned as assistant physician in the Athens State Hospital and will locate in Mansfield.

State Board Election.—At the annual meeting of the Ohio State Board of Medical Registration and Examination, held in Columbus, January 3, Dr. Sylvester M. Sherman, Columbus, was reelected president and treasurer; Dr. James A. Duncan, Toledo, vice-president, and Dr. George H. Matson, Columbus, secretary. A resolution was adopted that all applicants for reciprocity certificates must be bona fide residents or recent graduates of colleges in states from which the applicants come, and that they must make declaration of their intention to become residents of Ohio.

Medical Teachers Convene.—At the sixth annual meeting of the Ohio Association of Medical Teachers, held in Columbus, December 27, a number of interesting papers were read and discussed. At the evening session the association adopted a resolution that the State Board of Medical Examination and Registration be requested to join with the Ohio State Medical Teachers Association and the Ohio College Association in petitioning the state legislature to pass a law requiring two years of work in a college of liberal arts as preliminary to entrance into a medical college. Starling-Ohio Medical College gave a banquet in honor of the association, following which President William Oxley Thompson, of the Ohio State University, delivered an address on "Ethics of the Profession." The following officers were elected: president, Dr. Kennon Dunham, University of Cincinnati, Medical Department; vice-president, Dr. William D. Inglis, Starling-Ohio Medical College, Columbus; secretary, Dr. Elmer I. McKesson, Toledo University Medical College; treasurer, Dr. Charles W. McGavran, Starling-Ohio Medical College, Columbus, and executive committee, Drs. F. C. Waite, Western Reserve University Medical Department, Cleveland; Lyman Watkins, Eclectic Medical College, Cincinnati; F. H. Staples, Cleveland-Pulte Homeopathic Medical College, Cleveland; James U. Barnhill, Starling-Ohio Medical College, Columbus, and E. Otis Smith, University of Cincinnati Medical Department.

Cincinnati

Playground for Children's Hospital.—The Episcopal Hospital for Children has been presented by Mrs. Lars Anderson with a lot 65 by 250 feet, adjoining the hospital property, and this will be used as a playground for the children.

Personal.—Dr. William M. Withrow has been appointed a member of the Union Board of High Schools and trustee of the Woodward High School.——Dr. William G. Strietmann has been appointed assistant health officer.——Dr. Stephen B. Marvin has been reelected president of the board of education.——Dr. Daniel M. Denman has been elected district physician, vice Dr. William T. Lindsay, resigned.——Dr. William W. Bailey has been appointed district physician, vice Dr. Arthur Vos, resigned.——Dr. Christian R. Holmes has been called on to act as advisory expert in the preparation of plans for the new Louisville Hospital.

Academy Election.—At the annual meeting of the Cincinnati Academy of Medicine, January 9, the following officers were elected: president, Dr. William D. Haines; vice-presidents, Drs. J. Ambrose Johnson and Robert C. Jones; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander G. Drury; librarian, Dr. Arch I. Carson; trustee, Dr. E. Gustav Zinke; censor, Dr. Albert H. Freiberg; delegates to the state association, Drs. George Strohbach and William Gillespie; alternates, Drs. Samuel Iglauer and John H. Landis, and member of auxiliary committee on public policy and legislation, Dr. Charles A. L. Reed.

PENNSYLVANIA

Philadelphia

Memorial to Founder of the University Medical Department.—The school of medicine, founded in this city by Dr. John Morgan, eventually became the Medical Department of the University of Pennsylvania, known to be the first medical school in this country. It has been proposed to erect a memorial to Dr. Morgan in which his remains may be laid. A meeting was held at the office of Provost Smith, January 13, at which a circular was framed which will be sent out in a short time.

Antitoxin Reduces Diphtheria Mortality.—According to statistics prepared by Dr. Andrew A. Cairns, chief medical inspector of the Bureau of Health, it is shown that prior to 1896, the death-rate from diphtheria was more than 30 per cent., but that since the use of the antitoxin became general, the death-rate has never exceeded 20 per cent. In 1909, it was 13.2 per cent. and in the year just closed it was 12.93 per cent. The figures for 1910, which have just been completed show 3,804 cases of diphtheria reported with 492 deaths. In 1909, there were 2,329 patients in the Municipal Hospital, of whom 243 died, a percentage of 10.43, while last year 2,235 patients were taken to the city institution, where 203, or 9.08 per cent, died.

FOREIGN NEWS

International Congress for Psychiatry.—The next international congress for psychiatry is to be held at Moscow, Russia, in 1912.

Professional X-Ray Injury.—Dr. Fischer, chief of the Roentgenologic service at the general hospital at Copenhagen, has had two fingers of his left hand amputated on account of Roentgen-ray ulceration.

Industrial Diseases.—Italy has taken the lead in inaugurating a clinic especially for study and treatment of occupational affections, as already mentioned. It is at Milan, but five other Italian cities are giving courses of lectures on industrial diseases and are training specialists in this new branch of medical science. The third international congress on prevention and treatment of industrial diseases is to be held at Vienna in 1914.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 7, 1911.

Lead Poisoning from Soda Water

An inquest has been held on a physician's wife who died at Scarborough, Yorkshire, from lead poisoning due to drinking contaminated sodawater; she had been in the habit of drinking the contents of about two syphons weekly. Evidence was given that the Scarborough water-supply contained no trace of lead, but that the contents of three syphons of sodawater supplied to the deceased, of which she had partly used one, contained lead in the following proportions: In the last there was lead in the proportion of 1/16 grain per gallon, in another the same amount, and in the third 1/20 grain per gallon. The taps of the syphon were made of block tin and contained lead. Drinking water which contains lead in the proportion of more than 1/50 grain per gallon is not considered fit for use. On the other hand, the saloon proprietor who supplied the syphons gave evidence that he supplied many families and used three syphons a week himself and had never known of any ill effects.

Schools for Mothers

A most useful institution of recent development is the school for mothers. Most schools have been established within the last three years. They have arisen mainly for the purpose of diminishing the high infant mortality which prevails, a purpose intensified by disquiet at the declining birth-rate. Ignorance of infant needs is prevalent among a large proportion of the mothers of the working class, who during adolescence have been engaged in industrial work and therefore have had little experience of domestic life. The essential of a school for mothers is a physician, or at least a nurse, from whom instruction and advice are obtainable and to whom the infant is regularly taken for inspection. Around this central notion may cluster many other activities—home visiting, classes in hygiene, cookery, dress-cutting, provision of dinners for expectant and nursing mothers, provident clubs, etc. The treatment of sick infants is beyond the scope of the school; the mother is referred to a physician, dispensary, or other agency, according to the circumstances of the case. Many schools are administered by societies specially formed for the purpose. In several cases existing health societies have taken up this branch of work. Thus at Birmingham the work is carried on by a maternity hospital among the women who live near enough to attend with their infants. A well-conducted school endeavors to secure the attendance of its members once in two weeks, at least for the inspection of the

infants. This "consultation" gives opportunity for pointed instruction. In addition there are at many places regular classes for cookery, hygiene, infant care, sewing, knitting, etc. The benefit of the instruction is diffused beyond the members of the school, for mothers who have been instructed become centers of enlightenment for their neighbors. Leaflets of instruction are also frequently distributed. Some schools have a large number of members. Thus 765 mothers attend the Birmingham school, 600 the Kensington, 400 the Leeds. Systematic home visiting is always combined with class-room instruction. Much that is taught in a class-room seems unreal to the poorer and sometimes the well-to-do classes, and it is necessary to apply it in the actual conditions of home life to make it a vital subject for them. There is also systematic provision for looking up mothers who fail to attend regularly at consultations. At a few places, in all cases of childbirth in the district in other than the well-to-do classes the mothers are visited for some time. In some cases the school is run by the municipality; in others, by private philanthropic societies, which occasionally are assisted by municipal grants. In some places the school is practically a branch of the public health work and is superintended by the health officer and the municipal health visitor. In other places voluntary helpers visit under the oversight of public health authority. The salaried officers employed by the schools are few, several schools have no paid officials at all; few have paid superintendents or health visitors. Excluding municipal schools, in only two instances are payments made to physicians. In some cases private schools have the services of health visitors in the employ of the local health authority. Voluntary workers are numerous, there are twenty or more in as many institutions. As many as 300 give their services to the Glasgow Corporation Infant Consultations, a number which is not approached at any other place. Records are kept by the schools showing the weight and general condition of the child, and a card is given to the mother containing directions. Most schools restrict their work to children under the age of 12 months. Adequate data do not yet exist to show the results achieved, but in many reports reference is made to improved conditions in the neighborhood in which the work is carried on, and to a lower death-rate among the infants who are brought to the school than among infants in the district generally.

The Journal of Meat, Milk and Hygiene

Specialization in medical journalism has shown a new development in the appearance this month of a periodical with the above title, which is also described as "A Monthly Review Devoted to Securing an Efficient Supply of Meat and Milk." The first number gives promise of a high standard. There are three original articles: "Meat Poisoning: Its Nature, Causation and Prevention," by Professor McWeeney of Dublin; "Actinomycosis in Cows' Udders," by J. H. Patterson, bacteriologist; "The Public Slaughterhouse System in Scotland," by Dr. Dittmar, Medical Inspector. Notes and abstracts follow on such subjects as "Phlegmatous Inflammation of the Stomach of a Pig," "Cysticercus Bovis," "'Worm Nests' in Cattle Due to the Filaria Gibsoni" and "Microbes Isolated from an Egg." Under Annotations "A Uniform System of Meat Inspection," "Foreign Meat Regulations" and other topics are discussed.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 6, 1911.

Salvarsan (606) In Syphilitic and Parasyphilitic Nervous Disease

On January 3, at the Académie de médecine, Dr. Weiss read a communication from Dr. Ehlers of Copenhagen, reporting the case of a general paralytic, who on August 10 received an injection of 0.05 cg. of salvarsan. Some days afterward, trembling and crises of perspiration, loss of strength and fever occurred. Five days after the injection the patient died of cardiac paralysis. Autopsy revealed only parenchymatous degeneration of all organs. Dr. Ehlers does not hesitate to attribute the death to arsenical poisoning. [This fatality was mentioned in THE JOURNAL, Nov. 26, 1910, p. 1941.]

Following Ehrlich's directions, Dr. Ehlers treated with salvarsan seven syphilitics who had malignant tertiary lesions which were refractory to mercury. These seven cases were followed up after the injection and it was ascertained that the often miraculous improvement obtained in most of these patients is sustained only from eight to fifteen days in severe cases, and as long as a month in others. Among these seven patients there were relapses, the condition of most being as serious as before the treatment.

Moreover, Dr. Sicard, *agrégé* professor at the Paris medical college, communicated to the Société médicale des hôpitaux the results that he, with Dr. Marcel Bloch, obtained by means of salvarsan on forty-three patients affected with syphilitic or parasyphilitic diseases, such as tabes, general paralysis, cerebrospinal syphilis and syphilitic hemiplegia and paraplegia. From these results, it may be inferred that salvarsan is efficacious in syphilitic nervous diseases, including tabes, only when these are of recent date. In these cases the action of Ehrlich's remedy is superior to that of mercury, not only from the specific point of view, but also because arsenic medication, even in heavy dosage, has not the depressive effect of mercurial medication. On the contrary, among general paralytics treated with salvarsan, even at the first appearance of the signs of the disease, the result was nil, and likewise in long-standing cases of syphilitic hemiplegia and paraplegia.

The technic of choice appears to be intravenous injection, which permits the passage of salvarsan into the cerebrospinal fluid, followed some days later by injections of salvarsan in an oil medium into the gluteal muscles according to the method of Lévy-Bing and Lafay (THE JOURNAL, Dec. 3, 1910, p. 1994).

The Wassermann reaction, contrary to observations in the course of cutaneous and muscular syphilids, is only exceptionally modified after the treatment, even in patients who have received benefit from it.

Limitation of the Number of Liquor Licenses

The Senate has passed, by 156 votes against 59, the first clause of the bill to limit the number of liquor licenses. According to this clause the number of cafés, etc., selling alcoholic liquors or *apéritifs* other than those with a base of wine titrating at less than 23 degrees, to be consumed on the spot, is fixed at three for a commune of 600 inhabitants and under and at one for each 200 inhabitants above this number. A necessary distinction has thereby been established between hygienic and other drinks; the vendors of wine, beer, cider, coffee and tea are not limited; a restriction is placed only on establishments for the sale of alcohol, alcoholic drinks and beverages containing poisonous essences. At present there are in France more than 500,000 places licensed to sell drinks, that is to say, one for each eighty inhabitants or one for each thirty adults.

Glycosuria and Surgical Intervention

At the Academie de Médecine, on December 20, Dr. Bazy read a paper tending to show that glycosuria, even if it does not disappear completely under appropriate treatment, is not a contraindication to operation. Dr. Bazy reports observations on several patients affected with more or less intense glycosuria, who successfully underwent serious operations, such as excision of the tongue, internal urethrotomy, transvesical prostatectomy, exploratory laparotomy, total abdominal hysterectomy. Moreover, an increase in the quantity of sugar in the urine after the operation has been decided on, instead of being a contra-indication, may be really an indication for operation.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 23, 1910.

German Physicians in 1910

According to the medical directory (*Reichsmedizinalkalender*) published by Professor Schwalbe, the number of physicians in Germany last year was 32,294. As according to official statistics Germany has a population of 64,775,000, there are 5.01 physicians to 10,000 inhabitants. The number has increased by 480 over the previous year and the increase in the number of physicians slightly exceeds the increase in population. That in the next few years a relative increase is to be expected, is shown by the fact that the number of medical students has rapidly risen. In the summer of 1905, 6,032; 1906, 6,570; 1907, 7,574; 1908, 8,250; 1909, 9,239; 1910, 11,125. Foreign students are included in these figures and their number has also slowly risen. Also the number of physicians licensed in the last three years has increased. In 1906-07 it was the lowest, 553; the following year it had grown to 829, and in 1908-09, 942 physicians were licensed (*approbiert*). As usual the increase in physicians is most notable in the large cities. Relatively to the population, however, the number of physicians in the large cities has receded somewhat.

The number of licensed women physicians in Germany has undergone a remarkable relative increase. In 1908 there were only 55, in 1909, 69, while at present there are 102; in Berlin alone, there are now 32. The number of women medical students has also remarkably increased. In the winter of 1909-10 there were 371, in the summer of 1910, 512, including the foreigners. The number of specialists is still increasing. In 1906, 6.952=20.2 per cent. of all physicians; in 1910, 7,272=22.40 per cent. The most of these are gynecologists, principally in the large cities; in the second place come the oculists, and, third, specialists in ear, nose and throat. The largest percentage of specialists, is found as in former years in Dresden, 44.2 per cent. The following have over 40 per cent.: Stuttgart, Leipsic, Frankfort a. M., Plauen and Nuremberg; Greater Berlin has only 32.8 per cent. The smallest percentage, 18.5 per cent., is found in Kiel.

Reduction of the Birth-Rate in Prussia

For the entire state of Prussia there has occurred a reduction in the ratio of fertility, that is, in the number of births per 1,000 women capable of child-bearing, between the ages of 15 and 45. This ratio has declined from 174.60, in the quinquennium from 1876-80, to 161.85 for 1896-1900, and 154.83 in the period from 1901-1905. In the cities the ratio has declined from 160.64 to 129.12. In the rural districts, the ratio of fertility for 1876-80 was 182.93, which figure was even exceeded by the rate of 183.06 for 1896-1900 and even the figure for 1901-1905 remained at 178.72, only a little behind the initial ratio. It is the falling birth-rate in the cities which occasions the marked diminution of the general fertility. This phenomenon is especially notable in Berlin and the cities of the province of Brandenburg. The fertility ratio in Berlin sank from 149.21 in 1876-80 to 88.78 in 1901-05, a reduction of more that 40 per cent.

At the same time the ratio in the cities of the province of Brandenburg fell from 169.06 to 109.21. In the cities of Posen, West Prussia and Westphalia, the ratio has been well maintained. The lowest fertility outside of Brandenburg is exhibited by cities in Hesse-Nassau in which the ratio has fallen from 134.27 to 106.23. The country district of Brandenburg shows a marked reduction, from 174.87 to 137.61. Also in Pomerania the ratio has sunk from 185.85 to 171.09, in Saxony from 183.03 to 162.36, and in Hesse-Nassau from 177.67 to 153.60. Schleswig-Holstein and Hanover have lost from 2 to 3 per cent. The other six provinces, however, show a rise of the country fertility, most marked in Westphalia (190.29 to 205.10) and Silesia (181.66 to 192.23).

Marriages

JOHN WILLIAM EKBLAD, M.D., to Miss Elda Downing, both of Scandia, Kan., January 4.

JAMES HAMSON WOLVERTON, M.D., to Miss Ruth Grant, at Balmorhea, Tex., December 25.

WILL DANA SHELBY, M.D., to Miss Elizabeth Carter, both of Canton, China, November, 1910.

CARL C. VOGEL, M.D., Elroy, Wis., to Miss Delia M. Droshos of Milwaukee, Wis., December 24.

JOHN HERR MUSSER, JR., M.D., to Miss Marguerite Hopkinson, both of Philadelphia, January 7.

SAMUEL PILGRAM GERHARD, M.D., to Miss Laura May Kaufmann, both of Philadelphia, January 12.

HENRY GLOVER LANGWORTHY, M.D., Dubuque, Ia., to Miss Bertha Schmidt, in Chicago, December 29.

GEORGE WASHINGTON MITCHELL, M.D., Peoria, Ill., to Miss Myrtle McKee of South Dakota, January 3.

EDWARD WARWICK PINKHAM, M.D., New York City, to Miss Bessie Leverett Ray of Alton, Ill., January 3.

JAMES ELMER DONNELL, M.D., Cuba City, Wis., to Miss Aruba A. Blades of Dubuque, Ia., December 28.

CHARLES E. RAGAN, M.D., Clinton, Ind., to Miss Evangeline Trotter of Danville, Ind., in Chicago, December 25.

ANDREW LEONARD SKOOG, M.D., Kansas City, Mo., to Miss Anna Belle Gordon of Pueblo, Colo., December 21.

THOMAS VAUGHAN CRANDALL, M.D., Philadelphia, to Miss Clara L. Dorr of Dorchester, Mass., December 31.

HENRY ARTHUR GEITZ, M.D., to Mrs. Helen Marie Steer, both of St. Louis, at Rockaway Park, Long Island, N. Y., January 2.

Deaths

Charles John Kipp, one of the most prominent specialists on diseases of the eye and ear of the United States, died at his home in Newark, N. J., January 13, aged 72. He was a native of Germany, graduated from the College of Physicians, New York City, in 1861; entered the army a year later as acting assistant surgeon; in 1863, he became an assistant surgeon, U. S. V., major and surgeon in 1864, and was brevetted lieutenant colonel in 1865, resigning from the medical corps of the army in 1868. He was a member of the American Medical Association, and second vice-president in 1909; formerly president, and later chairman of the board of trustees of the Medical Society of New Jersey; president of the American Ophthalmological Society in 1907, and of the American Otological Society in 1908. He had served as surgeon to the Newark Eye and Ear Infirmary since 1880, as president of the board of managers of the New Jersey Sanatorium for Tuberculous Diseases from 1901 to 1906, and as consulting surgeon to many hospitals. Dr. Kipp was the author of numerous articles in medical journals and of sections in medical encyclopedias on subjects connected with his specialty.

Horace Smith Fuller, M.D. College of Physicians and Surgeons, New York City, 1865; for many years medical examiner of Hartford, Conn.; died suddenly in that city, December 30, from heart disease, aged 75. Immediately after graduation, Dr. Fuller became an acting assistant surgeon in the United States Army and continued on duty until August, 1865. He was for many years a member of the American Medical Association. From 1877 to 1884 he served as coroner and chairman of the health committee of Hartford and thereafter as medical examiner under the new law. For more than twenty-five years he was visiting physician and surgeon at the Hartford Hospital and later consulting physician and surgeon to the hospital. He was a member of the State Board of Medical Examiners since its inception, and for four years its president. In 1879 and 1880 he was surgeon-general of the state, and from 1873 to 1885 a member of the local board of pension examiners. On January 3, 1910, at the annual meeting of the Hartford Medical Society, Dr. Fuller was presented with the Gurdon W. Russell loving-cup which is retained by the dean of the profession in the city.

Darwin Colvin, M.D. Geneva (N. Y.) Medical College, 1844; a member of the American Medical Association, and second vice-president in 1887; one of the founders of the New York State Medical Association and its president in 1896; president of the Wayne County Medical Society, and Medical Association of Central New York in 1878; president of the village of Clyde from 1865 to 1867, and 1877; health officer and member of the board of education; a surgeon of volunteers during the Civil War; surgeon in the National Guard in 1866 and 1867; died at his home in Clyde, January 9, aged 88.

John Spottswood Wellford, M.D. University of Pennsylvania, 1846; one of the oldest members of the Richmond Academy of Medicine; a surgeon in the Confederate service during the Civil War; for nearly half a century professor of diseases of women and children in the Medical College of Virginia, Richmond, and later emeritus professor; died at his home in Richmond, January 1, aged 85. At a meeting of the faculty of the college of which he was so long a member, resolutions of sorrow and sympathy were unanimously adopted.

Charles James Curran, M.D. New York University, New York City, 1882; a member of the North Berkshire Medical Society; a member of the Board of Health of North Adams, Mass., from 1881 to 1887; town physician in 1887 and 1888; for several years a member of the local pension board; from 1891 to 1896, a member of the State Board of Lunacy and Charity; city physician in 1905 and 1906; a member of the staff of the North Adams Hospital; died at his home December 30, from cerebral hemorrhage, aged 49.

John Bartley Fleming, M.D. Washington University, St Louis, 1899; a member of the Missouri State Medical Association; secretary of the Lawrence-Stone County Medical Society; local surgeon at Aurora for the Missouri Pacific Railway; consulting physician to the Missouri State Sanatorium for Incipient Tuberculosis; died in the Deaconess Hospital, St. Louis, January 6, a week after an operation for appendicitis, aged 34.

Oliver A. Rea, M.D. Hospital College of Medicine, Louisville, Ky., 1883; a member of the American Medical Association, and for three years president of the Marshall County Medical Society; surgeon to the Culver (Ind.) Military

Academy, and formerly president of the Plymouth (Ind.) Pension Board; a veteran of the Civil War; died in Rochester, Ind., recently, after a surgical operation, and was buried January 9, aged 67.

Oscar Samuel Roberts, M.D. Medical College of Vermont, Burlington, 1864; University of Pennsylvania, Philadelphia, 1869; medical cadet during the Civil War; a member of the American Medical Association; consulting physician to the House of Mercy Hospital, Pittsfield, Mass; secretary of the local pension board since 1884, and for several years a member of the Pittsfield Board of Health; died at his home, January 4, aged 73.

Rufus Chambers, M.D. University of Louisville, Ky., 1882; Washington University, St. Louis, 1884; a member of the American Medical Association; lecturer on principles of surgery in the Medical Department of Fort Worth University; city physician of Fort Worth from 1901 to 1905, and thereafter physician of Tarrant County; died in St. Joseph's Infirmary, Fort Worth, December 29, from pneumonia, aged 50.

Cornelius Cole Bradley, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the American Medical Association; attending ophthalmologist to St. Joseph's Orphan Asylum and St. Joseph's Institute, and consulting ophthalmologist to the Home for Incurables, New York City; died at his home in New Rochelle, N. Y., December 30, from septic endocarditis, aged 48.

Edward Hamilton Trickle, M.D. Miami Medical College, Cincinnati, 1870; a member of the Ohio State Medical Association, and formerly president of the Washington County Medical Society; a veteran of the Civil War; for twenty years local pension examining surgeon; local surgeon of the M. C. and C. Railroad; died at his home in Cutler, January 8, from pneumonia, aged 74.

George Roberts Moore (years of practice); of Three Rivers, Mich.; a member of the Michigan State Association of Railway Surgeons; at one time division surgeon for the Chicago, Milwaukee and St. Paul Railway at Oxford Junction, Ia.; died at a hospital in Omaha, December 21, from pneumonia, following a compound fracture of the tibia caused by a runaway accident, aged 75.

William H. Krause, M.D. New York Homeopathic Medical College, New York City, 1873; consulting physician to the Hahnemann Hospital, New York City; a surgeon in the German service during the Austro-Prussian and Franco-Prussian wars; attending physician to the Bond Street Dispensary and examiner in lunacy; died at his home, January 7, from nephritis, aged 69.

William F. Davis, M.D. Jefferson Medical College, 1876; a member of the American Medical Association; for three years resident physician of the Charity Hospital, Philadelphia; a member of the local pension examining board of Dover, Del.; died in Jefferson Hospital, Philadelphia, December 31, aged 65, as the result of injuries received nine days before by the kick of a horse.

Edwin Lacy Gibson, M.D. University of Maryland, Baltimore, 1894; a member of the American Medical Association; physician to the Staunton (Va.) Military Academy; a member of the city council and local surgeon to the Baltimore and Ohio Railroad; died at his home, January 6, from typhoid fever, aged 41.

James Preston Watkins, M.D. College of Physicians and Surgeons, Baltimore, 1897; a member of the American Medical Association, and president of the council of the Chattahoochee Valley Medical and Surgical Association; died at his home in Opelika, Ala., August 18, from nephritis, aged 41.

James B. Tennell, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Piqua, O.; a practitioner for fifty-two years; and a member of the Ohio State Medical Association; died in the Cass County Infirmary, Logansport, Ind., December 31, from mental disease, aged 77.

John Abbott Prince, M.D. University of Michigan, Ann Arbor, 1887; a member of the American Medical Association; one of the proprietors of the David Prince Sanitarium, Springfield, Ill.; died suddenly at his home, January 1, from heart disease, aged 47.

Martin Van Buren Lonergan, M.D. College of Medicine and Surgery, Keokuk, Ia., 1877; a member of the Illinois State Medical Society; of Decatur; died from suffocation in a fire that destroyed the St. James Hotel, Pana, December 31, aged 58.

Walter C. Fulkerson, M.D. Kansas City (Mo.) Medical College, 1891; a member of the American Medical Association; for five years surgeon of the Denver, Enid and Gulf Railway at Marshall, Okla.; died in Guthrie, Okla., November 2, from dysentery, aged 41.

Charles Heil Hunsicker, M.D. Jefferson Medical College, 1900; a member of the American Medical Association; and associate in genito-urinary surgery Jefferson Medical College; died in Philadelphia, January 8, from carcinoma of the intestines, aged 34.

Robert J. R. Tilton (license, thirty-nine years practice, 1893); a member of the Kentucky State Medical Association, and for several years president of the Nicholas County Medical Society; died at his home in Carlisle, January 6, aged 70.

William J. Hodges, M.D. University of Louisville, Ky., 1890; a member of the American Medical Association; of Pineville, Ky.; died January 4, aged 43, as the result of injuries sustained by being struck by an L. and N. train a week before.

Willis Hall Vittum, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; a nose and throat specialist of St. Paul; died suddenly in his office in that city, December 29, from cerebral hemorrhage, aged 61.

Monmonier Rowe, M.D. College of Physicians and Surgeons, Baltimore, 1881; major of the First Battalion of the Fourth Infantry, Maryland National Guard; died suddenly at his home in Baltimore, December 31, from nephritis, aged 51.

James Cutler, M.D. Starling Medical College, Columbus, O., 1857; a veteran of the Mexican and Civil wars; local U. S. pension examining surgeon; died at his home in Richwood, O., December 19, from cancer of the stomach, aged 79.

Horace J. McDonald, M.D. American University of Pennsylvania, Philadelphia, 1876; a veteran of the Civil War; at one time pension examining surgeon; died at his home in LaCrosse, Wis., December 31, from cerebral hemorrhage, aged 71.

Frank Avery Coates, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the American Medical Association; died at his home in Mystic, Conn., September 11, from cancer of the throat, aged 59.

Jefferson B. Scearce, M.D. Jefferson Medical College, 1858; a member of the Ohio State Medical Association and Chillicothe Academy of Medicine; died at his home in Chillicothe, January 8, from angina pectoris, aged 73.

Harold D. Fitch, M.D. Miami Medical College, Cincinnati, 1908; of Cincinnati; a member of the Ohio State Medical Association; died in the Good Samaritan Hospital, Cincinnati, January 3, from pneumonia, aged 26.

George Valentine Hann, M.D. New York University, New York City, 1851; a member of the Medical Society of the State of New York; died at his home in New York City, September 20, from diabetes, aged 65.

Samuel Alonzo Davis, M.D. Harvard Medical School, 1862; a member of the Massachusetts Medical Society; a veteran of the Civil War; died at his home, Winter Hill, Boston, January 3, from pneumonia, aged 73.

Frank Henry Haskins, M.D. Harvard Medical School, 1899; a member of the Massachusetts Medical Society; died at the home of his mother in Springfield, December 30, from carcinoma of the liver, aged 39.

Albini Joseph W. Dufault, M.D. Laval University, Quebec, 1905; a member of the Union Médicale of Fall River, Mass.; died at his home in Fall River, September 23, from multiple infectious arthritis, aged 28.

George Harvey Doane, M.D. College of Physicians and Surgeons, Chicago, 1908; a member of the American Medical Association; died at his home in O'Fallon, Ill., January 6, from pneumonia, aged 27.

Frederick Larkin, M.D. Central Medical College of New York, Syracuse (Hon.); for more than sixty-two years a practitioner; died at his home in Randolph, N. Y., November 21, from paralysis, aged 97.

Edward Emmitt Haworth, M.D. Kentucky School of Medicine, Louisville, 1894; a member of the Indiana State Medical Association; died at his home in Claypool, January 2, from anemia, aged 44.

Benjamin Bently Bacon, M.D. Eclectic Medical Institute, Cincinnati, 1858; for nearly sixty years a practitioner; died at the home of his son in Leavenworth, December 9, from heart disease, aged 85.

John L. Hale (license, thirty years of practice, Kentucky, 1896); of Wickliffe, Ky.; formerly a member of the American Medical Association; died in Cairo, Ill., December 30, from cancer, aged 75.

Alfred M. Critz, M.D. Indiana Medical College, Indianapolis, 1877; a resident of Ballard, Wash., for eighteen years; died in that city, December 19, from cerebral hemorrhage, aged 58.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

FORMUROL

Report of the Council on Pharmacy and Chemistry

Formurol, Citrocoll and Aspirophen were submitted to the Council by the Cellarius Company of San Francisco. The manufacturers having failed to substantiate the claims they make for these products, the Council has voted that the preparations be refused recognition. The Council also authorized the publication of the following report, which deals particularly with one of the preparations—Formurol.

W. A. PUCKNER, Secretary.

Formurol is the product of the Chemische Fabrik Falkenberg, Falkenberg-Gruenau, near Berlin, Germany. The Cellarius Company, San Francisco, acting as selling agents for the United States, submitted Formurol (along with Aspirophen and Citrocoll, also made by the same firm) to the Council, with the statement that it is "hexamethylentetramin-sodium-citrate," and that it has the following composition: "$C_6H_{12}O_3Na.C_6H_{12}N_4$."

Zernik,[1] who examined these products, reported that Aspirophen, Citrocoll and Formurol do not have the composition that is claimed for them by the Fabrik Falkenberg. Formurol, he states, is not a definite chemical compound, but a mixture of hexamethylenamin and sodium citrate. The agents were advised of this fact by the Council and were asked to submit evidence to substantiate their claims. No such evidence was submitted.

Since a compound having the composition that is claimed for Formurol is theoretically possible, the Council requested that the product be examined in the Association Laboratory to determine whether it still was the simple mixture reported by Zernik, or whether, perhaps, it now possessed the formula claimed for it. The following report was made by the Association chemists:

> Formurol, as submitted to the Council, was in the form of tablets weighing about 1 gm. each and appeared to be composed of a fine white substance interspersed with some transparent particles. The tablets were readily soluble in water, were odorless and possessed a slightly acid taste. The aqueous solution responded to tests for hexamethylenamin, citrate and sodium. To determine whether hexamethylenamin was present in the free or the combined state, the method of Zernik was employed. This consists in the extraction of Formurol with chloroform, which dissolves out hexamethylenamin, leaving insoluble sodium citrate. As the use of the solvent, chloroform, would seem to preclude decomposition of such a hypothetical compound as "hexamethylenamin-sodium-citrate," the extraction of hexamethylenamin from Formurol may be taken to demonstrate its presence in the free state.
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> That Formurol is not a compound of hexamethylenamin, but a mixture of hexamethylenamin and sodium citrate, was further indicated by the appearance of the crushed tablets described above. Further, under the low-power microscope the powder was found to be composed of transparent crystals and white opaque particles which appeared to be masses of minute crystals. When treated with chloroform the transparent crystals dissolved, leaving the white masses intact, demonstrating the presence of two distinct substances, one soluble and the other insoluble in chloroform. It having been demonstrated that the residue obtained by evaporation of chloroform could not be weighed as hexamethylenamin, due to enclosed chloroform, the amount of this substance in the residue was determined.
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> The method used has been described in the Report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, and depends on the decomposition of hexamethylenamin by means of sulphuric acid to form ammonium sulphate and formaldehyd. From this solution the ammonia is liberated, distilled and determined[2] by titration and from the ammonia found the amount of hexamethylenamin is calculated. By this method Formurol was found to contain (*a*) 35.42 per cent. and (*b*) 35.32 per cent., or an average of 35.37 per cent. hexamethylenamin. The residue insoluble in chloroform was shown to consist essentially of disodium hydrogen citrate by determining[3] the amount of sodium (Na) contained in Formurol. The percentage of sodium calculated from the amount of sodium sulphate found was (*a*) 11.38 per cent. and (*b*) 11.20 per cent., or an average of 11.29 per cent., equivalent to 62.50 per cent. disodium hydrogen citrate.
>
> As a check on this determination, the amount of material contained in Formurol which is insoluble in chloroform was determined.[4] It was found to be (*a*) 63.23 per cent. and (*b*) 63.49 per cent., making an average of 63.36 per cent., and thus agreeing fairly well with the results obtained when the sodium content was assumed to be disodium hydrogen citrate. From this analysis it appears that Formurol is not a definite compound of hexamethylenamin and sodium citrate, but instead is a mixture of these substances consisting approximately of hexamethylenamin 35.37 per cent. and sodium acid citrate (disodium hydrogen citrate) 63.36 per cent., practically a mixture of 1 part hexamethylenamin and 2 parts sodium acid citrate. These results agree with those reported by Zernik and show that the product now, as then, is not true to claims.

In view of the findings of the laboratory, it is recommended that Formurol be refused recognition. As the exploitation of well-known remedies under false and misleading names is detrimental to the progress of medicine, it is recommended that publication of this report be authorized.

EDITORIAL NOTE: This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past, many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

1. Zernik: Arb. a. d. Pharmazeut. Inst. d. Univ. Berlin, 1907, iv 46.

2. Determinations were made, following the details of the method described in the report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, with the following results: (*a*) 1.0769 gm. Formurol yielded an amount of ammonia requiring 10.96 c.c. normal sulphuric acid for neutralization, indicating the presence of 0.3815 gm. or 35.42 per cent. hexamethylenamin. (*b*) 1.1178 gm. Formurol required 11.36 c.c. normal sulphuric acid, equivalent to 0.3952 gm. or 35.32 per cent. hexamethylenamin, making an average of 35.37 per cent.

3. Sodium was estimated by converting to sodium sulphate in the usual way, with the following results: (*a*) 1.0319 gm. Formurol yielded 0.3621 gm. sodium sulphate, equivalent to 11.38 per cent. sodium. (*b*) 0.8783 gm. Formurol yielded 0.3035 gm. sodium sulphate, equivalent to 11.20 per cent. sodium; average, 11.29 per cent., equivalent to 62.50 per cent. disodium citrate ($C_6H_6O_7Na_2+H_2O$).

4. The matter insoluble in chloroform was determined by weighing Formurol to a tared filter, which had been washed with chloroform and dried at 100 degrees, and percolating with chloroform till the dried filter and contents became constant in weight. By this method (*a*) 1.0769 gm. Formurol yielded 0.6826 gm. or 63.23 per cent. matter insoluble in chloroform; and (*b*) 1.1178 gm. Formurol yielded 0.7079 gm. or 63.49 per cent. insoluble matter; average, 63.36 per cent.

5. Therap. d. Gegenw., February, 1909.

Correspondence

Niemeyer's Pill

To the Editor:—I have long felt certain that the term "Niemeyer's pill" was being erroneously applied to the well-known pill of calomel, squill and digitalis, but while I have availed myself of frequent opportunities to correct students regarding its use I did not think that the matter was sufficiently important to demand public notice until several months ago I found THE JOURNAL of the American Medical Association, I think in its therapeutic department, making the same error. Then it seemed to me time to speak out.

The true Niemeyer's pill was suggested by Felix von Niemeyer about 1886 and 1867 with a view to combating the pyrexia of pulmonary consumption. The following is the language on page 68 of his little classic brochure entitled "Clinical Lectures on Pulmonary Consumption," translated by the New Sydenham Society in 1870:

"Among the remedies which are in many cases successful in reducing the increased production of heat and the temperature of the body, although the original disease continues, digitalis and quinin justly enjoy a great reputation.

"We employ them very frequently in phthisical patients, if we have not succeeded in subduing the pyrexia by the means above alluded to; and pills which contain 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and of which one is taken four times a day, are one of the most frequent prescriptions of our clinic."

Niemeyer says further:

"At times, when I am much consulted by phthisical patients, I often prescribe these pills three or four times on the same day. In the hospital we discontinue the pills as soon as a marked decrease of the temperature and of the frequency of the pulse is noticeable, and we return to their use as soon as their effect has again disappeared. In my consulting practice I have repeatedly seen that patients quickly learn to judge by their own experience when it is time to discontinue the pills and when to return to their use."

Not every one has made this mistake. Thus, Osler in the seventh edition of his "Practice," section on syphilis, p. 281 says: "If there is ascites, Addison's pill (as it is often called) of calomel, digitalis and squills will be found very useful. Again in the section on diseases of the valves of the heart by Osler and Gibson, vol. 4, p. 268, of "Modern Medicine," we read: "Powdered digitalis is of great service in combination with squills and mercury, 1 grain of each, in the form of the Addison's or Guy's pill." Dr. A. O. J. Kelly in his new book on the "Practice of Medicine," p. 477, also refers to it as Addison's, Guy's or Niemeyer's pill. It is evident that the pill of calomel, squills and digitalis far antedates the time of Niemeyer.

The author who comes nearest to identifying the Niemeyer pill is Clifford Allbutt, who refers to a pill of powdered digitalis leaves and quinin. Dr. Kelly tells me also that Allbutt refers to it as the Leipsic pill.

Let us not forget, the Niemeyer pill is composed of 1 grain of quinin, ½ grain of digitalis and ¼ grain of opium, and was prescribed by v. Niemeyer for the fever of pulmonary tuberculosis, and if any name is applied to the pill of calomel, digitalis and squills it should be that of Addison or of Guy.

JAMES TYSON, Philadelphia.

Medical Milk Commissions

To the Editor:—Permit me to congratulate you on the publication of the editorial "Clean Milk Production" (THE JOURNAL, January 7, p. 48).

I have one regret—that the excellent summary of the subject did not mention the American Association of Medical Milk Commissions, what it stands for and the good work it is doing in spreading this gospel of clean milk throughout the country. Largely through the efforts of this organization, the number of component milk commissions has increased in number threefold in three years, and now number more than sixty in widely scattered parts of the United States and Canada.

The work of members of milk commissions and of the American Association is altruistic in its best meaning. The national body needs financial assistance to spread this gospel of clean milk broadcast, to have a competent representative in the field constantly to present the cause before medical associations and assist in the formation of medical milk commissions; for it is the "moral influence of milk commissions that has been a large factor in bringing about an improved general supply."

The Association of Milk Commissions feels that this work should receive the active support of the American Medical Association, and it is hoped that eventually its active cooperation can be secured. In no way can the conservation of the infant population of the country be secured so effectually as by making clean milk a possibility in every community.

HENRY ENOS TULEY, Louisville, Ky.
Chairman of the Council.

Sodium Cacodylate in Syphilis

To the Editor:—Dr. A. T. Caffrey becomes enthusiastic over sodium cacodylate in syphilis (THE JOURNAL, Dec. 24, 1910, p. 2211), because by this drug he has healed (?) a syphilitic lesion of the lip in twenty days, though the patient still possesses evidences of a hard chancre and is still under treatment.

In our cases at Dr. F. Bierhoff's clinic, luetic sores on lip and elsewhere heal very rapidly under the action of the soluble salts of mercury (oxycyanid), rarely consuming a larger period than two weeks, intramuscular injections being used in ascending dosage and patient seen every other day.

It is inconceivable that a patient with such a strong arsenical breath as described by Dr. Caffrey should display no disagreeable symptoms. To my mind, it is a classical symptom of poisoning—it is well to remember that arsenical poisoning is a very insidious process and a persistence of arsenic under the circumstances may lead to unpleasant results. It is respectfully suggested that the healing over of an initial lesion (and this in reality is the only apparent result of the treatment), is no evidence of a cure of the syphilis, and that it might be of scientific interest to give the result of an ophthalmoscopic examination, a test of renal functions, and a Wassermann blood examination, which last might disappoint Dr. Caffrey keenly. In conclusion, I ask: Wherein lie the advantages over the mercurial treatment, as compared by scientific investigation, in view of the apparent dangers of cacodylate of sodium?

L. L. MICHEL, New York City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CENTIGRADE AND FAHRENHEIT SCALES

To the Editor:—In THE JOURNAL, Jan. 7, 1911, p. 81, is an abstract of an article by Japha in which "Rhythmic Compression of the Heart for Apparently Moribund Children" is treated and "temperature of 43.3° C." is given as corresponding to 110° F. This is incorrect, and should read approximately 107.19° F. I feel sure that this temperature is incorrectly reported and I send this protest only from the belief that THE JOURNAL would not wish to report a mistaken observation.

ALBERT N. BLODGETT, Boston.

ANSWER.—We are gratified to see that the columns of THE JOURNAL are scanned so closely for possible mistakes. THE JOURNAL is glad to have its attention called to any mistakes and will promptly correct them.

In this case, however, the figures given were entirely correct and our correspondent has fallen into error. The rule for transposing temperature from Centigrade to Fahrenheit is based on the fact that a degree of Centigrade equals 1.8 degrees Fahrenheit and that the zero point of the Centigrade scale is at 32° F. Hence, if we multiply the figures of the Centigrade by 9/5 and add 32, we obtain the figures on the Fahrenheit scale. In the present example $43.3 \times 9 = 389.7$; $389.7 \div 5 = 77.94$; $77.94 + 32 = 109.94$. A very convenient

method for obtaining these figures is to get nine-tenths of the number, multiply the result by 2 and then add the 32. Thus, 43.3 minus 4.33 (one-tenth of the same) equals 38.97. This multiplied by 2 equals 77.94; adding 32 gives 109.94.

ARTICLES ON MEDICINE IN THE PHILIPPINES

To the Editor:—Medical matters in the Philippines are constantly becoming of greater interest to the practitioner in the United States. Doubtless you have published articles on the subject. Can you give me a list of recent ones? H. D.

ANSWER.—The following articles on the subject have appeared within the last few years:

Ashburn, P. M., and Craig, Charles F.: Study of Tropical Diseases in the Philippine Islands, THE JOURNAL, Feb. 27, 1907, p. 691.

Dudley, F. W.: Prevalence of Cancer in the Philippine Islands, THE JOURNAL, May 23, 1908, p. 1663.

Dudley, F. W.: Prevalence of Hydrophobia in the Philippine Islands, THE JOURNAL, Dec. 19, 1908, p. 2143.

Heiser, V. G.: Sanitation in the Philippine Islands Since the American Occupation, THE JOURNAL, Jan. 9, 1909, p. 97.

McLaughlin, A.: The Suppression of a Cholera Epidemic in Manila, THE JOURNAL, April 10, 1909, p. 1153.

Musgrave, W. E.: Ten Years of American Sanitation in the Philippine Islands, THE JOURNAL, Feb. 6, 1909, p. 442.

Rochester, A. S.: The Care and Treatment of Opium Smokers in the Philippine Islands, THE JOURNAL, Jan. 30, 1909, p. 351.

Strong, R. P.: Combating Tropical Diseases in the Philippine Islands by Scientific Methods, THE JOURNAL, Feb. 13, 1909, p. 524.

TREATMENT OF SOLITARY CASEOUS LYMPH-GLAND

To the Editor:—What is the recognized treatment for a solitary caseous lymph-gland of the anterior cervical region, in a woman with a family history of tuberculosis, but without other signs of the disease? The patient is pregnant. SHELBY.

ANSWER:—Our correspondent does not state the size of the lymph-gland, how long the condition has been present, whether it is active or latent, or whether it is giving rise at present to any trouble. If the condition is latent or inactive it should be let alone for the present. If it is active, the gland should be removed notwithstanding the fact that the patient is pregnant.

AUTOMOBILE DATA WANTED

To the Editor:—Will the readers of THE JOURNAL who have had any experience with the Brush runabout, now selling at $450.00, and with the Dayton Airless Clincher Tire, please write me whether or not they give satisfaction. Any one interested, who may want to know the reports from this inquiry, may have same by writing and enclosing stamp. L. C. OYSTER, Lumberport, W. Va.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 14, 1911.

Arthur, William H., lieut.-col., granted three months' leave of absence about April 20, 1911.

Fisk, Owen C., lieut., Dec. 31, leave of absence extended ten days.

Birmingham, Henry P., lieut.-col.; Kean, Jefferson R., major; Winter, Francis A., major; appointed members of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination and promotion.

Miller, Albert L., M.R.C., January 9, relieved from Fort Meade, S. D., about February 1, and ordered to his home, and on expiration of leave of absence for one month, to take effect about February 1, will stand relieved from active duty in the Medical Reserve Corps.

Thearle, William H., lieut., ordered to Jefferson Barracks, Mo., for temporary duty.

Van Horn, James B., M.R.C., relieved from further treatment at Army General Hospital, San Francisco, and ordered to the Army General Hospital, Fort Bayard, N. Mex., for observation and treatment.

Lyster, William J. L., major, on expiration of leave is assigned to temporary duty as attending surgeon in Philadelphia until June 1, 1911.

Church, James R., major, sick leave of absence extended twenty days.

Crum, Wayne H., lieut., granted twenty days' leave of absence, to terminate at such time as will enable him to report at Fort McKinley, Me., for duty with troops to Philippine Islands.

Scott, H. O., D.S., left Fort Hamilton, N. Y., en route to San Francisco, on one month and ten days' leave, and for annulment of contract.

Winter, Francis A., major, ordered to New York City on business connected with the purchase of medical supplies.

Lyon, William C., M.R.C., resignation accepted by the President to take effect January 14.

Hammond, William G., D.S., contract annulled January 14.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 14, 1911.

Dunbar, A. W., surgeon, detached from the naval dispensary, Washington, D. C., and ordered to continue other duties.

Fitzsimmons, P., medical director, detached from duty as a member of the naval retiring board, navy yard, Washington, D. C., and ordered to continue other duties.

Field, J. G., medical inspector, ordered to the navy yard, Norfolk, Va.

Von Wedeking, L. L., surgeon, detached from command of the naval hospital, Annapolis, Md., and ordered to special duty in connection with the marine recruiting rendezvous, Chicago.

Pickrell, G., medical inspector, ordered to command the naval hospital, Annapolis, Md.

Guest, M. S., surgeon, transferred to the retired list from Jan. 6, 1911.

Strite, C. E., P. A. surgeon, ordered to the Naval Medical School Hospital, Washington, D. C., for observation.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 11, 1911.

White, J. H., surgeon, granted one month's leave of absence, without pay, from Jan. 5, 1911.

Irwin, Fairfax, surgeon, granted one month and ten days' leave of absence from Feb. 18, 1911.

Fricks, L. D., P. A. surgeon, granted fourteen days' leave of absence from Dec. 27, 1910.

Rucker, W. C., P. A. surgeon, detailed to join the "Mine Rescuing Car" and proceed to the several mines in West Virginia for special temporary duty. Granted three days' leave of absence en route.

Herring, R. A., asst.-surg., directed to proceed to Stapleton, N. Y., and report to the chairman of board of medical examiners, to determine his fitness for promotion to the grade of passed assistant surgeon.

Coffey, J. H., A. A. surgeon, granted seven days' leave of absence from Jan. 15, 1911, under paragraph 210, Service Regulations.

DeForest, C. M., A. A. surgeon, granted thirty days' leave of absence from Jan. 24, 1911, and a further period, without pay, of two months from Feb. 25, 1911.

Moncure, J. A., A. A. surgeon, granted fourteen days' extension of leave of absence from Dec. 17, 1910, on account of sickness.

White, R. C., A. A. surgeon, granted twenty-two days' extension of leave of absence from Dec. 10, 1910, on account of sickness.

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Jan. 16, 1911, to conduct a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed-Assistant Surgeon M. K. Gwyn, recorder.

Board of medical officers convened to meet at the Marine Hospital, Port Townsend, Wash., Feb. 6, 1911, to conduct physical examinations of officers of the Revenue-Cutter Service. Detail for the board: Surgeon P. M. Carrington, chairman; Passed-Assistant Surgeon B. H. Earle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Jan. 16, 1911, for the examination of Assistant-Surgeon R. A. Herring, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Hiram W. Austin, chairman; Passed-Assistant Surgeon W. A. Korn; Passed-Assistant Surgeon George L. Collins, recorder.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Third Weekly Meeting

LOCAL ANESTHESIA—COCAIN

PHYSIOLOGIC ACTIONS: Applied locally to mucous surfaces, to skin.

HYPODERMICALLY: Strength and dose of solution, indications, dangers.

INFILTRATION METHOD: Schleich's solution, combination with epinephrin, Braun's method. Indications, disadvantages.

SPINAL ANESTHESIA: Corning, Bier, Jonnesco. Technic in detail. Indications, dangers and after effects.

NEURAL ANESTHESIA: Corning, Oberst, Crile. Technic of nerve-blocking, solutions, advantages, difficulties.

SUBSTITUTES FOR COCAIN: Eucain, tropacocain, stovain, novocain, holocain, acoin.

ANESTHESIA BY FREEZING: Agents used, indications, disadvantages.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Washington July Report

Dr. F. P. Witter, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Seattle, July 5-7, 1910. The number of questions examined in was 11; total number of questions asked, 110; percentage required to pass, not less than 60 in any one subject. The total number of candidates examined was 104, of whom 79 passed, including 4 osteopaths, and 25 failed, including 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Cooper Medical College	(1905)	1
University of Southern California	(1907)	1
Howard University, Washington, D. C.	(1907)	1
Gross Medical College	(1898)	1
Denver and Gross College of Medicine	(1907) (1909)	2
Rush Medical College	(1897) (1906)	2
College of Physicians and Surgeons, Chicago (1900) (1901) (1905)	(1910)	5
Northwestern University Medical School (1888) (1898 (1902), (2, 1907) (3, 1909)	(1910)	9
Chicago College of Medicine and Surgery	(1909)	1
Hahnemann Med. College and Hospital, Chicago.	(1910)	1
State University of Iowa, College of Medicine (1901) (1906) (1907)	(1910)	4
State Univ. of Iowa, Coll. of Homeo. Medicine	(1905)	1
Keokuk Medical College	(1897)	1
Hospital College of Medicine, Louisville	(1905)	1
Johns Hopkins University	(1902)	1
Tufts College Medical School	(1904) (1908)	2
Harvard Medical School	(1905)	1
Boston University	(1909)	1
Michigan College of Med. and Surgery.	(1896) (1905)	2
Detroit College of Medicine	(1901)	1
Univ. of Mich., Coll. of Med. and Surg.	(3, 1908) (1909)	4
Saginaw Valley Medical College	(1902)	1
Hamline University	(1902)	1
Univ. of Minn., Coll. of Med. and Surg.	(1902) (1909)	2
University of Minn., Homeopathic College	(1897)	1
Marion Sims College of Medicine	(1897)	1
Kansas City Hahnemann Medical College	(1909)	1
Barnes Medical College	(1910)	1
Washington University, St. Louis	(1907)	1
Creighton Medical College	(1907)	1
Columbia University, College of Physicians and Surgeons (1906) (1908)	(1909)	3
New York University Medical College	(1896)	1
Long Island College Hospital	(1897)	1
Medical College of Ohio	(1871)	1
Miami Medical College	(1881)	1
University of Oregon	(1910)	2
Willamette University	(1910)	1
Western Pennsylvania Medical College	(1901)	1
Medico-Chirurgical College, Philadelphia	(1903)	1
Jefferson Medical College (1900) (1908)	(1910)	3
University of Pennsylvania (1903)	(1910)	2
University of Manitoba, Winnipeg	(1897)	1
Trinity Medical College, Canada (1902)	(1903)	2
Western University, London, Ontario	(1910)	1
Owen's College, Manchester, England	(1904)	1

FAILED

Bennett Medical College, Chicago	(1909)	1
Rush Medical College (1899) (1901)	(1903)	3
Northwestern Univ. Woman's Medical School	(1887)	1
Chicago Homeopathic Medical College	(1883)	1
College of Physicians and Surgeons, Chicago.	(1910)	1
Indiana Medical College	(1898)	1
State University of Iowa, College of Medicine	(1884)	1
Kansas Medical College	(1896)	1
Kentucky School of Medicine	(1904)	1
Medical School of Maine	(1910)	1
College of Physicians and Surgeons, Baltimore.	(1893)	1
Baltimore Medical College	(1907)	1
Saginaw Valley Medical College	(1899)	1
Barnes Medical College	(1907)	1
Missouri Medical College	(1883)	1
St. Louis University	(1904)	1
Jefferson Medical College	(1895)	1
University of Pennsylvania	(1907)	1
University of Nashville	(1902)	1
College of Physicians and Surgeons, Dallas	(1908)	1
Marquette University, Milwaukee (1909)	(1910)	2

Missouri September Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Jefferson City, September 20-22, 1910. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 58, of whom 38 passed and 20 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	84
Chicago College of Medicine and Surgery	(1910)	77.8
Northwestern University Medical School	(1909)	81.2
Rush Medical College	(1910)	82.4
Drake University	(1910)	77.9
University of Kansas	(1910)	77.2, 80.4
Kansas Medical College	(1908)	81.2
Louisville Medical College	(1903)	75.3
University of Louisville (1902) 75; (1910) 75, 80.6, 82.4, 84.1, 84.2, 86.9.		
Johns Hopkins Uuniversity	(1910)	84.5, 88.2
Ensworth Medical College, St. Joseph.	(1908) 75.3; (1910)	75
St. Louis College of Physicians and Surgeons (1899) 75; (1908) 75, 78.3; (1910) 75.2, 75.8, 76.9, 78.4, 83.5, 85.1, 86.2.		
University Medical College, Kansas City	(1910)	75
Kansas City Hahnemann Medical College	(1910)	75
Barnes Medical College	(1910)	75
St. Louis University	(1910)	80.5
Columbia University, Coll. of Phys. and Surg.	(1907)	89.5
Starling Medical College	(1892)	81.2
Vanderbilt University	(1910)	78.2
University of Texas	(1910)	89.4

FAILED

University of Louisville	(1910)	57.2, 65.1
Ensworth Medical College (1909) 37.5; (1910)		63, 66.8
St. Louis College of Physicians and Surgeons (1906) 63.8; (1909) 66.8, 67.1; (1910) 66.7, 68.8.		
Barnes Medical College (1907) 49.3; (1910)		66.2, 68.4, 69.1
Homeopathic Medical College of Missouri	(1909)	68.9
American Medical College, St. Louis.	(1909) 63.3; (1910)	65.2
University Medical College, Kansas City	(1910)	60, 62.8
Meharry Medical College	(1910)	65.3

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, October 11-13, 1910. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and not less than 50 in any one subject. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
American Medical Missionary College	(1910)	83.4
Tufts College Medical School	(1907)	84.6
Harvard Medical School	(1904)	85
Detroit College of Medicine	(1910)	75.5, 77.2, 77.9
University of Michigan, Dept. of Med. and Surg. (1910) 77, 85.7.	(1893)	87.8;
Detroit Homeopathic College	(1910)	75, 78.2
University of Paris	(1899)	88.1

FAILED

Detroit Homeopathic College	(1908)	43.4

Montana October Report

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written and oral examination held at Helena, October 4-6, 1910. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 52, of whom 36 passed and 16 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	78.9
Rush Medical College (1897) 78.4; (1904) 82.9; (1907) 79; (1909) 77.5; (1910) 84.7.		
Hahnemann Medical College and Hospital, Chicago (1883) 78.6; (1895) 75.5.		
Northwestern University Medical School	(1910)	75.1, 77.3
College of Physicians and Surgeons, Chicago	(1909)	75.2, 80
Bennett Medical College	(1906)	75
Chicago Homeopathic Medical College	(1896)	75.1
University of Kansas	(1909)	75.1
Indiana University	(1910)	79.3
College of Physicians and Surgeons, Baltimore	(1910)	77.1
Johns Hopkins University	(1910)	76.7
Baltimore Medical College	(1906)	75.4

University of Michigan, Dept. of Med. and Surg. (1903) 76.9; (1910) 76.4, 79.8.
University of Minnesota, College of Med. and Surg. (1902) 75; (1904) 77.4.
Hamline University ..... (1902) 75.4
Creighton Medical College ..... (1910) 75.8, 78.9
Kansas City Hahnemann Medical College (1909) 75.2; (1910) 79.3.
Cornell University Medical College ..... (1900) 75.1
Albany Medical College ..... (1906) 75.7
Jefferson Medical College ..... (1910) 76.2
Memphis Hospital Medical College ..... (1903) 75
Vanderbilt University ..... (1908) 75
University of Toronto, Ontario ..... (1908) 75.2
University of Christiania, Norway ..... (1906) 76.7

FAILED

Rush Medical College ..... (1904) 71.3
Northwestern University Medical School ..... (1908) 62.4, 65.6
Indiana Medical College ..... (1896) 51
University of Iowa, College of Medicine ..... (1910) 65.3
Keokuk Medical College ..... (1907) 60.4
College of Physicians and Surgeons, Keokuk ..... (1907) 49.3
Hamline University ..... (1908) 70.7
University Medical College, Kansas City ..... (1881) 42.3
Barnes Medical College ..... (1910) 71
Ensworth Medical College ..... (1905) 51
Marion-Sims Beaumont College of Medicine ..... (1903) 50.8
Memphis Hospital Medical College ..... (1910) 71.1
University of the South ..... (1905) 64.9
University of Nashville ..... (1906) 63.2
College of Physicians and Surgeons, Dallas ..... (1908) 68.1

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written and oral examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 24, of whom 16 passed and 8 failed. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
Yale Medical School ..... (1910) 80.1, 82.1, 83.4		
Louisville and Hospital Medical College ..... (1908)		83.9
Baltimore Medical College ..... (1909) 81.2; (1910) 77.8, 79.2		
Medical School of Maine ..... (1903)		78.5
Johns Hopkins University ..... (1900)		90.6
Dartmouth Medical College ..... (1910)		88.4
University and Bellevue Hospital Med. College ..... (1910)		85.7
University of Pennsylvania ..... (1910)		89.9
Jefferson Medical College ..... (1903)		77.2
University of Vermont ..... (1893)		75.5
University of Virginia ..... (1908)		75.4
Queen's University, Kingston, Ontario ..... (1908)		80.3
FAILED		
Maryland Medical College ..... (1910)		73.4
Baltimore Medical College ..... (1907) 12.2; (1909)		74.2
University of Maryland ..... (1906) 74.3; (1908)		63.5
College of Physicians and Surgeons, Baltimore ..... (1910)		72.8
College of Physicians and Surgeons, Boston ..... (1910)		61.2
University of the South ..... (1904)		62.8

West Virginia November Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Morgantown, Nov 14-16, 1910. The number of subjects examined in was 9; the total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 29, of whom 24 passed, including 1 osteopath, and 5 failed. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
Howard University, Washington, D. C. .. (1904) 82; (1910)		83
Georgetown University ..... (1910)		86
George Washington University ..... (1908)		92
College of Physicians and Surgeons, Chicago ..... (1910)		80
University of Louisville (1910) 80, 81, 82, 83, 85.		
Louisville and Hospital Medical College ..... (1908)		89
Woman's Medical College of Baltimore ..... (1910)		88
University of Maryland ..... (1910)		83, 86
Eclectic Medical College, Cincinnati ..... (1910)		80
University of Pittsburg ..... (1908) 92; (1910)		87
Women's Medical College of Pennsylvania ..... (1906)		85
Western Pennsylvania Medical College * ..... (1907)		82
University of Pennsylvania ..... (1909) 90; (1910)		91
Meharry Medical College ..... (1910)		81
University of the South ..... (1908)		86
FAILED		
University of Louisville ..... (1909)		65
Maryland Medical College ..... (1909)		76
Baltimore University ..... (1900)		63
Eclectic Medical College, Cincinnati ..... (1910)		76, 77

* Name changed to University of Pittsburg, Medical Department, in 1908

Connecticut Homeopathic November Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, November 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
Boston University ..... (1904) 90; (1906)		80, 88
Hahnemann Med. Coll. and Hosp., Philadelphia .. (1910)		84

Book Notices

NEPHROCOLOPTOSIS. A Description of the Nephrocolic Ligament and its Action in the Causation of Nephroptosis, with the Technic of the Operation of Nephrocolopexy, in Which the Nephrocolic Ligament is Utilized to Immobilize Both Kidney and Bowel. By H. W. Longyear, M.D., Professor of Gynecology and Abdominal Surgery, Detroit Post-Graduate Medical School. Cloth. Price, $4. Pp. 251, with 86 illustrations. St. Louis: C. V. Mosby Company, 1910.

The author of this work was dominated by a central idea. This idea is that movable kidney is produced by the sagging of the colon drawing on and pulling out of place the kidney, the weight of the colon being transmitted to the kidney through bands of connective tissue which the author calls the nephrocolic ligament. In order to explain the fact that the right kidney alone is affected in the large majority of the cases, the author assumes that the colon, in attempting to move its contents up the ascending colon, pulls down on the right kidney and that no such downward pull on the left kidney is present while the contents are moving down the descending colon. A glance at Figures 4 and 6, showing a long ascending limb of the transverse colon passing up to the splenic flexure, would be sufficient to shake one's belief in the theory, even if there were not many other reasons for hesitating to accept it. Concerning the nephrocolic ligament, on page 29 we find the following: "The last two observers—surgeons of long experience [Reed and Zuckerkandl]—are emphatic in their opinion regarding the strength of the tissue. Both believed its volume and strength to be of inflammatory origin and thus abnormal and adventitious. Billington's observation that this condition is peculiar to cases of nephroptosis coincided with that of the author and seems to cover a valuable point in the anatomic experience of some others who, failing to find the ligament as described, base their opinions on the examination of subjects which have had no displacement of the kidney."

If these bundles of connective tissue or nephrocolic ligament are perceptibly present only in cases of movable kidney and colon it is infinitely more probable that they are the result and not the cause of the abnormal mobility. The author admits on page 37 that "whether this increase of tissue over the average is cause or effect is not known." Yet on page 50 he states that the ligament is the most important factor in the cause of movable kidney as, "by it the prolapsing colon pulls the kidney out of place," There is one more important fact in connection with movable kidney which the author's theory does not explain, and that is that movable kidney is extremely common in women and extremely uncommon in men.

The contents of the colon must be moved up the ascending colon in men just the same as in women, and there must be the same downward pull, yet it does not pull the kidney down in men, so there must be some other factor in the etiology of movable kidney which the author's theory fails to explain. However, that the author appreciates this fact is well shown in his description of the prophylactic treatment which contains much good sense on how to develop strong, healthy bodies in young girls. The key-note is struck on page 81. "Breathing exercises should be conducted in ways to develop the intercostal muscles and diaphragm and cause broadening and increase of capacity of the lower part of the thoracic cavity." (It should read upper abdominal cavity, as that is where the organs are located.) This is not only good prophylactic treatment but good in well-developed cases.

The author is too enthusiastic in regard to the benefits of operative treatment. In the great majority of the cases movable kidney produces no special symptoms and therefore its fixation by operation in those cases relieves none.

The work is a very readable one, and, aside from the fact that the author takes a rather narrow view of the cause of movable kidney, contains many good points.

HANDBUCH DER NEUROLOGIE. Herausgegeben von M. Lewandowsky. Vol. I, Allgemeine Neurologie. Paper. Parts I and II. Price, 68 marks. Pp. 1606, with 322 illustrations and 12 plates. Berlin: Julius Springer, 1910.

This work, dealing with the general principles of neurology, constitutes the first volume of a handbook which, when completed, is to embrace the entire practice of neurology. In its preparation forty-six authors, each an authority on the subject assigned him, have contributed to make this the most exhaustive treatise on practical neurology to be found in any language. The value of each article is greatly enhanced by the good bibliography which accompanies it—a feature not found in any other neurologic text-book. The subject-matter is treated of in five chapters and many subchapters.

Chapter 1, by Bielschowsky, comprises about 90 pages, with 6 colored plates. The histology and histopathology receive masterly treatment by the well-known author of the new fibrilstain, by means of which greater insight has been afforded into the histology of the nervous system. The writer, though a follower of Apathy and Bethe, both of whom have labored hard to overthrow the neuron theory, discusses the neuron doctrine with no rancor and suggests a modification according to the latest research.

Chapter 2, dealing with the anatomy of the nervous system and really a text-book in itself, is up to date and contains in 218 pages and a splendid bibliography the essentials of the entire subject.

Chapter 3, on the experimental physiology of the nervous system, was written in individual articles by R. du Bois-Reymond, Otto Kalischer, M. Lewandowsky and Ernst Weber. The last-named author contributed the article on "Physiologic Accompaniments of Psychic Processes" in 22 pages, and one regrets that not more space was devoted to this interesting and entirely new topic; but what there is of it is excellent. The entire chapter is one of the best in the book.

Chapter 4, the longest, is devoted to general pathology, symptomatology and diagnosis of nervous diseases. Among the many splendid articles the one on the nervous disorders of the cochlea and vestibule by Robert Bárány of Vienna, must be particularly mentioned. In the short space of 40 pages he gives a summary of pioneer work done in this new field, largely his own, which must attract the attention of neurologists and otologists.

Chapter 5, on the general therapy, covers almost everything of importance pertaining to the treatment of this class of disorders. The surgical, orthopedic, electric and mechanical methods are fully discussed by such experts as W. Braun, Oscar Vulpius, and Toby Cohn. The subchapter on the treatment by drugs is well handled by S. Kalischer. Though the article on psychotherapy by Fritz Mohr is fairly complete, yet in our opinion disproportionate space is given to hypnotism—more than one-half—when this space could have been profitably devoted to a fuller discussion of modern methods of psychic treatment.

MANUAL OF HUMAN EMBRYOLOGY. By Many Writers. Edited by Frank Keibel, Professor in the University at Freiburg i. Br., and Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University, Baltimore. In Two Volumes. Volume I. Cloth. Price, $7.50. Pp. 548, with 423 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

As appears from the title, a number of German and American embryologists have collaborated in the production of this important work, which appears simultaneously in Germany and in America. The chapters originally written in German have been translated by Professor McMurrich and the chapters originally written in English have been translated by Professor Keibel. The work is in two imperial octavo volumes. The text is handsomely illustrated.

The chapters in Volume I are as follows: F. Keibel: "Introduction;" "The Germ Cells"; "Fertilization"; "Segmentation"; "Young Human Ova and Embryos up to the Formation of the Primitive Segment"; "The Formation of the Germinal Vesicle and the Problem of the Gastrula"; "Summary of the Development of the Human Embryo and the Differentiation of its External Form."

F. P. Mall: "Determination of the Age of Human Embryos and Fetuses"; "The Pathology of the Human Ovum."

Otto Grosser: "Development of the Egg Membranes and the Placenta"; "Menstruation."

Felix Pinkus: "Developmental History of the Skin."

Charles R. Bardeen: "Developmental History of the Skeleton, Including the Histogenesis of the Supporting Substances of the Connective Tissue Group."

Warren H. Lewis: "Developmental History of the Muscular System, Including the Histogenesis of the Smooth and Cross-striped Muscle Fibers."

F. P. Mall: "Celom and Diaphragm."

The existing text-books of human embryology, many of them of high excellence, are based, as is well known, for the most part, on other than human material, having been written from the point of view of comparative embryology. In the present work, however, the account of the development of the human body is based mainly on human material. Whenever comparative embryology and anatomy are drawn on in order to render intelligible special developmental processes in man, the considerations are printed in smaller type so that a clear distinction between facts and deductions is apparent. In the introduction Professor Keibel traces the development of human embryology up to the present time when the materials needed for a full exposition are practically available, with the exception of the earlier stages in the development of the germ layers and the first steps of placentation. The authors are all masters of the subject of which they write and the result is a fine example of literary cooperation, the necessary similarity of treatment being secured by the common purpose and by editorial supervision. Greater uniformity in the bibliographic references at the end of many chapters is desirable. This is an authoritative work of great value and of special interest to physicians because it deals with the development of the human body itself.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Second Edition. Cloth. Price, $3 net. Pp. 594, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1910.

In our review of the first edition of this work we said: "It is destined to occupy a large field of great usefulness because it meets the needs, not only of the medical student, but also of the general scientific student and reader who is interested in the relations of microbes to disease and in their growing importance to agriculture, to sanitation, and to many industries." That our prophecy has been already fulfilled is evidenced by the appearance of this second edition in such a short space of time.

The subject-matter has been brought fully up to date by inclusion of the most important features of the research of the last few years. While bacteriology, in the narrower sense, must be regarded as an all-important branch of medical science, yet one must not forget that this science has done much for the various industries, in many cases having almost created new industrial conditions. It is, therefore, especially refreshing to find in this work so much more stress laid on the medical aspects than is usually the case in such works; and this, too, without slighting the many other fields in which bacteriology is of great importance.

The subject-matter of this volume leaves little to be desired, either as to content or as to arrangement. The facts, which have been established by many years of earnest research, are marshalled in such an array that even the most casual reader cannot fail to realize the great importance of this branch of science. The style is clear, concise, and, especially, scholarly—characteristics too often sacrificed by the scientific writer on the altar of abstruse statement. The illustrations are numerous and excellent. We heartily commend this work to those who wish to become *en rapport* with the various phases of general bacteriology without being compelled to go over the enormous mass of detail, which is, necessarily, a part of the equipment of the specialist in this great field.

EUTHENICS. THE SCIENCE OF CONTROLLABLE ENVIRONMENT. A Plea for Better Living Conditions as a First Step Toward Higher Human Efficiency. By Ellen H. Richards, author of Cost of Living Series, etc. Cloth. Price, $1 net. Pp. 162. Boston: Whitcomb & Barrows, 1910.

The title of this book explains its motive and defines the new word it introduces. It deals with race improvement through environment, while eugenics, the corresponding term which suggested the present one, deals with race improvement through heredity. Euthenics, therefore, the author says, precedes eugenics, developing better men now and thus inevitably creating better men in the future. While eugenics has to await investigation and see its results in the future, euthenics has present opportunities. The author might have added that eugenics deals with only one form of prophylaxis or evil and is as yet largely tentative in its methods and recommendations, while the proper use of good environment is a means always at hand and corrective as well as preventive. The name is the most original part of the work, which, however, gives a large amount of wholesome advice on sanitation, education, and the relations of science and education to human welfare. There are some omissions: the author seems to steer clear of the ethical side of education; the school, she says, "is not the best place to teach ethics." This may be so, but it is a good place nevertheless, and for some pupils the only one. There is much good counsel given about housing, diet, nutrition, etc., but the abuses of drink, drug habits, etc., which are among the most fruitful causes of human degeneracy, receive hardly any mention. Probably the author thought these matters had received sufficient emphasis elsewhere, but they, as well as some other social problems, are certainly important enough to be considered or at least mentioned under the general head of euthenics, as defined.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Assistant Professor of Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University, New York. Fourth Edition. Cloth. Price, $5.50 net. Pp. 908, with 601 illustrations. Philadelphia: Lea & Febiger, 1910.

This edition is a half larger and contains a third more illustrations than the first edition, issued only nine years ago. Comparison of this with the earlier editions shows, in text, bibliography, and pictures, thorough assimilative revision and supplementation. The regional plan (with some general chapters), the conservative orthopedic scope, the inclusion of statistics, the annotation by exact references, the consideration of treatment chiefly by local means—operation, apparatus, and posture and exercise—and the representative rather than the personal attitude are retained. The book, therefore, continues to be peculiarly valuable, and this edition makes it again standard.

PSYCHE. A Concise and Easily Comprehensible Treatise on the Elements of Psychiatry and Psychology. For Students of Medicine and Law. By Dr. Max Talmey. Cloth. Price, $2.50. Pp. 282. New York: Medico-Legal Publishing Company, 1910.

Despite the fanciful title, this book contains much of value to the medical student and the general practitioner. The introductory chapter on the psychology of physiology of the mental functions is well written and sufficiently exhaustive for the medical student. The succeeding three chapters are too meager in content and the last chapter, on special pathology of insanity, the most important for the medical reader, is entirely inadequate. There can be no doubt that the author's expectations will be fulfilled with reference to the value of his treatise to the layman and to the attorney.

NORMAL HISTOLOGY, WITH SPECIAL REFERENCE TO THE STRUCTURE OF THE HUMAN BODY. By George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania. Eighth Edition. Cloth. Price, $3.50. Pp. 418, with 438 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

A new edition of this text-book has been prepared on the lines indicated in the original preface. It is intended to be used at the beginning of the medical curriculum, and therefore sufficient information on gross anatomy is included to enable the student to grasp the subject. The book admirably fulfils its purpose. The text is well illustrated, a considerable number of colored pictures being introduced. The present edition is well fitted to sustain the reputation which previous ones have achieved.

THE FAMILY HEALTH. By Myer Solis-Cohen, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Price, $1. Pp. 267. Philadelphia: The Penn Publishing Co., 1910.

Cohen covers the field of household medicine, including housing, water, heating, bathing, clothing, exercise, eating, stimulants, childhood, care of sick, accidents, etc. His style is terse and dogmatic, yet not objectionally so. It enables him to cover a great deal of ground and to avoid confusing the reader. Statements that deserve criticism are few and these are not important, as, for instance, "Stoves do not assist at all in ventilation." The book may be recommended as a sensible guide to health and right living.

HYPNOTISM AND SUGGESTION IN DAILY LIFE, EDUCATION AND MEDICAL PRACTICE. By Bernard Hollander, M.D. Cloth. Price, $1.75. Pp. 295. New York: G. P. Putman's Sons, 1910.

The book will be interesting reading both to the physician and to the layman. It is an orderly, calm discussion of the subject, but adds nothing new of scientific value. There is no adequate consideration of the questions raised by the school represented by Freud and Jung; these questions are of the greatest importance where suggestion in any way enters into the problem.

Medicolegal

Validity and Construction of Provision in Medical Practice Act for Licensing Itinerant Vendors of Nostrums—Powers of State Board of Health—Advertising Matter Around Bottles as Evidence

The Supreme Court of Illinois, in People for use State Board of Health vs. Wilson, interprets and holds constitutional section 8 of the medical practice act of 1899, and holds that said section was not repealed by the pharmacy act of 1901. Said section 8 provides: "That any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, who shall, by writing or printing, or by any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license of one hundred dollars ($100) per month into the treasury of the board, to be collected by the board in the name of the People of the State of Illinois, for the use of said board. And it shall be lawful for the State Board of Health to issue such license on application made to said board * * * but said board may, for sufficient cause, refuse said license. * * * "

It was contended that the section was unconstitutional for the reason that it delegated legislative and judicial powers to the State Board of Health by giving it the right to refuse a license for sufficient cause without laying down any rule for its guidance. And the court says that it is the province of the legislature, alone, to enact law, and that power cannot be delegated to any other body. A law must be complete in all its terms and conditions when it leaves the legislature, so that every one may know, by reading it, what his rights are and how it will operate when put into execution. But this section is complete in all its terms, and it does not confer on the State Board of Health any power to legislate or to make any law. The only powers delegated to the board pertain to the execution of the law. Had this section given the board arbitrary power, in its discretion, to refuse to issue a license in any case it would then be open to the objection urged. As it stands, this section merely confers on the board, by express terms, that power and authority which it would have possessed had the clause complained of been entirely omitted.

This statute is designed to protect the public health and is a proper exercise of the police power of the state. The practice of medicine, which includes the itinerant vending of drugs and nostrums, is subject to legislative regulation and control. Had the clause, "but said board may, for sufficient cause, refuse said license," been omitted from this section of the act, the board would have possessed a discretion, which it might exercise to safeguard the public health, in granting or refusing a license. By the insertion of this clause the board is given no greater power. In the absence of either

express restriction or authority the board would have been vested with a reasonable discretion, which it might exercise, when necessary, to safeguard the public health. If the board would possess such power without express authority it certainly cannot be said that the granting of that power in express terms renders the act void. Should the board abuse the discretion thus vested in it the party aggrieved has his remedy. If such discretionary power is exercised with manifest injustice the courts are not precluded from commanding its due exercise. They will interfere where it is clearly shown that the discretion is abused. Such abuse of discretion will be controlled by mandamus.

Under this act the State Board of Health is not vested with an arbitrary discretion, but on the contrary, is only authorized to refuse a license for sufficient cause. Should the board exercise this discretion unreasonably or unfairly its action would be subject to review by the courts. The act is not subject to the objection that it confers legislative powers on the State Board of Health.

Nor does the court agree with the contention that, even though this act be valid, section 8 was repealed, by implication, by the pharmacy act of 1901, so far as it applies to the itinerant vending of patent or proprietary medicines. The drug or nostrum sold in this case ("Porter's Pain King") was a proprietary preparation and bore a trade-mark. It was sold by the defendant in the original and unbroken package, and it was not claimed that it contained cocain or any other of the interdicted substances enumerated in the pharmacy act. The second proviso of the first section of the pharmacy act exempts from its provisions the sale of patent or proprietary preparations which do not contain cocain and other enumerated substances, and, so far as that act is concerned, leaves those preparations free to be sold by any one when sold in original and unbroken packages. The pharmacy act is not in reference to the same subject-matter as section 8 of the medical practice act. The pharmacy act merely provides that one who sells certain patent or proprietary preparations need not be a pharmacist, and that the provisions of that act do not apply to the sales of such preparations. It contains nothing which in any way modifies or repeals the provisions of the medical practice act regulating the vending of drugs and nostrums, whether such drugs and nostrums be patent, proprietary or other preparations.

It was urged, however, that, as by the pharmacy act the legislature removed all restrictions from the sale of certain patent or proprietary preparations, that act must be held to operate to repeal said section 8 in order to prevent unjust discrimination between vendors of the same patent or proprietary preparations, and it was insisted that it cannot be made unlawful, on the ground of regulating the practice of medicine, for a citizen to sell medicine from a wagon or by traveling from house to house when the same medicine can be lawfully sold by the proprietor of a grocery or drug store. This argument was based on the assumption that itinerant vendors of patent and proprietary preparations fall within the same class as vendors of the same preparations who have a fixed and permanent place of business. This assumption is without foundation. A merchant with a permanent place of business deals, as a rule, with his regular customers and sells wares to such as come to buy. He is not a stranger in the community, and his character, reliability and reputation are known. He has a business reputation to maintain and has a fixed abiding place at which he may be found. An itinerant vendor, on the other hand, is not bound by any of the rules which govern the local merchant. He may be an entire stranger to every member of the communities in which he plies his trade. He has no business reputation to sustain. He is bound by no restraint in the representations he may make as to the particular drug or nostrum he offers for sale. He is here to-day and to-morrow is gone, perhaps never to be heard of again. The local dealer and the itinerant vendor of patent medicines are of separate and distinct classes. To regulate the practice of medicine is clearly within the police power of the state, and to discriminate between peddlers or itinerant vendors of medicinal preparations and local dealers in the same preparations is not an abuse of that power. The pharmacy act in nowise repeals any of the provisions of the medical practice act.

It was finally contended by the defendant that there was no proof that he was an itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of disease or injury, or that he did, by writing or printing or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application. The evidence disclosed that the preparation sold by him was contained in bottles. Around each bottle was wrapped a printed circular, and bottle and circular were inclosed in a pasteboard box. The circular or pamphlet gave specific directions for external and internal use in the treatment of almost every ailment known to science with which man, beast or fowl may be afflicted, representing that "Porter's Pain King" was the best known remedy for all such ailments and guaranteeing satisfaction. The pamphlet also contained copies of a number of testimonials by various persons, in which wonderful cures of various ailments were claimed to have been effected by the use of the preparation. This pamphlet was delivered, with the preparation, to the purchaser. Such professions, although made only to those who purchased the nostrum, come within the clear meaning and intent of the statute. On this question the evidence on the part of the People made out a case against the defendant as an itinerant vendor of a nostrum, in violation of the statute.

Society Proceedings

COMING MEETINGS

American Medical Association. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Assn. of American Medical Colleges, Chicago, February 27-28.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twentieth Annual Meeting, held at Chicago, Dec. 19-20, 1910

(*Continued from page 67*)

Primary Sarcoma of the Appendix

DR. EVERETT O. JONES, Seattle, Wash.: Primary sarcoma of the appendix is an extremely rare condition. An accurate diagnosis before operation appears to be impossible. In every case the symptoms are those of some type of appendicitis. Pathologically the round-cell sarcoma predominates; next to this, the spindle-cell type. Inflammatory changes, either chronic or acute, very frequently accompany the growth. The immediate prognosis and prospect of freedom from recurrence are very good. The fact that primary sarcoma of the appendix may arise in an inflammatory process forms a very strong additional argument for the removal of all appendices which show evidences of inflammation.

DISCUSSION

DR. A. E. HERTZLER: I have no hesitation in referring to this case as one of desmoid of the appendix, because I do not know what a desmoid is, and I do not know the nature of the appendix removed in this particular case. It is common to have microscopic pictures in these chronic intestinal inflammations which look very much like sarcoma; hence the greatest care possible is necessary to make the differentiation.

DR. S. C. BEEBE, David City, Neb.: In the department of pathology of St. Mary's Hospital, Rochester, Minn., of 5,000 appendices removed, there were only twenty-two cases of carcinoma, and not a single case of primary sarcoma.

DR. WILLIAM C. MCCARTY, Rochester, Minn.: Among 10,000 appendices removed in Rochester, I have not seen one case of sarcoma. In the first 5,000 cases examined, there were twenty-two cases of carcinoma. Two of these I had previously diagnosed as endothelioma, which shows that the differential diagnosis between endothelioma and sarcoma is a difficult one. These were all very early cases, and in only one out of seventeen was the serosa involved.

DR. DONALD MACRAE, Council Bluffs, Ia.: I have had eight or ten cases which from macroscopic appearances and the sensation imparted to my fingers appeared to be sarcoma. Unfortunately in the cases I have had, the disease was not entirely confined to the appendix, but involved the cecum, and there were adhesions which tore away like frozen meat, and the mass had a sarcomatous feel.

DR. ARNOLD SCHWYZER, St. Paul, Minn.: A few years ago, while on a visit to Switzerland, a patient presented himself with a large tumor of the diaphysis of the femur. Professor Kocher was to operate on this patient, believing the tumor was malignant. Sections were taken from it, and examined by Professor Langhans, who made the positive report that the tumor was a round-cell sarcoma. In the meantime, while waiting for the report, Kocher observed the tumor and found some grayish little dots here and there which appeared to him to be deteriorated tissue, and came to the conclusion that it was a case of infectious granuloma. He acted accordingly, left the femur, and saved the patient's leg. No recurrence took place. It is difficult to make a differentiation between infectious granuloma and sarcoma.

DR. EMERSON F. ROOT, Salt Lake City: About seven years ago I had a case of what I thought was primary sarcoma of the appendix. The patient had had a chronic appendicitis for more than a year. The appendix was found to be 5 or 6 inches long, and 1 inch or more in diameter, with its lumen almost occluded. It was rather hard, and very loosely attached. The cecum was not involved to any great extent. The appendix was removed together with a small portion of the head of the cecum. The wound healed by primary intention. Two or three months later the patient died. In this case the microscopic diagnosis was made of round-cell sarcoma of the appendix.

DR. WILLIAM JEPSON, Sioux City, Ia.: I am averse to coining new terms that do not express anything. The term desmoid tumor arises from the fact that prior to our histologic conception of what these tumors were like, they were classed as having developed from band-like masses found in the rectus muscle or in the transverse fascia. The term desmoid means band-like. Is there any reason why we should adhere to such a term when these tumors are strictly fibromas?

A New Principle in the Action of Antiseptics

DR. M. G. SEELIG, and DR. C. W. GOULD, St. Louis: Effectiveness in the action of a germicide is dependent on the inherent power of destroying germ life, and the power of penetrating tissues, blood-clot or exudate, in order to reach the bacteria.

Germicidal drugs such as mercuric chlorid, phenol, cresol and compound solution of cresol, in watery solution of various strengths, have no apparent effect on organisms that are separated from the germicide by a thin layer of celloidin, an excellent osmotic membrane. Iodin in watery solution is an exception. It osmoses through the celloidin and destroys the organisms. With animal membranes, excepting a 3 per cent. watery solution of phenol, the same results were secured as with celloidin membranes. Alcohol, above 60 per cent. strength, penetrated the celloidin membranes with a degree of rapidity and effectiveness proportionate to its strength. Ninety-five per cent. alcohol kills the organisms in from three to ten minutes. Eighty per cent. in about an hour and a half; 70 per cent. in about seven hours, whereas 50 per cent. did not kill in twenty-four hours. Ninety-eight per cent. was not perceptibly more efficacious than 95 per cent. The addition of bichlorid or phenol did not increase the osmotic power, or intensify the germicidal action of alcohol. The addition of iodin to the alcohol made a solution of heightened osmotic power and increased the germicidal power. The fatty constituents of the tissues, the skin for example, render them better osmotic membranes for alcohol and tincture of iodin, for the reason that alcohol is soluble in these fats. This phenomenon underlies the fact that thorough washing of the skin interferes somewhat with the germicidal effect of the subsequent application of alcohol. The generally accepted explanation that washing the skin is a disadvantage because it softens and swells the epidermis is incorrect.

Primary Suture of Subparietal Rupture of the Kidney

DR. F. GREGORY CONNELL, Oshkosh, Wis.: Owing to the rapid recent increase in the number of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe. Shock, injury to other organs and external evidence of trauma are frequently absent. History of an abdominal contusion, followed by rigidity and hematuria, is sufficient to lead to exposure of the organ. Slight lesions, and complete rupture of the kidney cannot be differentiated by clinical signs or symptoms. Proof of the absence of serious rupture is called for before instituting the so-called expectant treatment. Nephrectomy should be reserved for very extensive disintegration of the organ. Conservative treatment, preferably by suture, is indicated in the majority of cases.

DISCUSSION

DR. WILLIAM J. FRICK, Kansas City, Mo.: Heavy falls or blows striking on or about the lumbar region should always be regarded as serious. The appearance of hematuria following such injury should be sufficient evidence on which to make a diagnosis of rupture of the kidney, although the absence of hematuria following such injuries is not always absolute proof that the kidney has not been injured. In one case of subparietal rupture of the kidney, hematuria was very slight, although the damage to the kidney was apparently beyond repair. The patient did not live very long. The wound about the kidney was simply packed. In a case of gunshot wound of the kidney there was not a trace of blood in the urine, macroscopically at least, although the perirenal space was filled with blood. When a diagnosis of rupture of the kidney is made, the kidney should be exposed by a lumbar incision, especially if it be an uncomplicated rupture of the kidney, as it is the only means we have of determining the extent of damage done to the kidney. We cannot depend on the amount of hematuria or any other sign. Knowing the ability of kidney tissue to repair itself, we should attempt conservative surgery in these cases. Nephrectomy should not be done unless the injury to the kidney parenchyma is so extensive as to make it impossible to save enough of it to be of functional value, and unless the injury to the renal vessels is so great as to interfere seriously with the organ's nutrition.

DR. GEORGE N. KREIDER, Springfield, Ill.: By means of the Roentgen ray we can definitely outline the kidney, differentiating the pelvis from the substance of the kidney. Another valuable point is to give the patient methylene blue, which would cause staining of the tissues about the injured kidney.

DR. B. B. DAVIS, Omaha, Neb.: A great many nephrectomies have been done unnecessarily. We are beginning to realize the wonderful reparative power the kidney possesses. In one case I removed about one-third of the kidney, putting in a mattress suture below, with recovery of the patient. I believe that in many cases the suture is very much to be preferred to gauze drainage or gauze used to control hemorrhage.

DR. F. A. DUNSMOOR, Minneapolis: It is not the mere escape of blood which causes death in these cases, but it is the mixture of urine with the blood and its absorption into the tissues which causes death, particularly in these complicated cases in which the abdominal cavity is contaminated.

DR. ARNOLD SCHWYZER, St. Paul: As to the diagnosis, blood in the urine may be very scant. The first urine should be examined not only by the eye, but microscopically.

DR. A. W. ABBOTT, Minneapolis: I wish to speak of some experiments made by a Minneapolis physician for the purpose of determining the ultimate results of injury to the kidney. In the first place, where the kidney has been injured and the capsule only sewed together, if there was much hemorrhage left in the kidney, it was followed by inflammatory trouble usually, and then by a scar, and a large part of the kidney was rendered useless. The same results followed packing. The best results were obtained by a suture which passed through the kidney directly at about the outer limits of the pyramids.

DR. DANIEL N. EISENDRATH, Chicago: I want to endorse the position taken by Dr. Davis in contradistinction to that taken by Dr. Connell and Dr. Frick. My experience is based on a personal observation of fifteen cases of subparietal rup-

ture of the kidney. The conclusion has been forced on me that the more conservative we are in the treatment of subparietal rupture of the kidney, the greater will be our percentage of recoveries, and I think that is the tendency one sees in the foreign literature on this subject. I have seen some extremely severe cases in which I thought I would do a nephrectomy, but I have watched these patients bleed and bleed, and when left alone they have recovered. Why do they recover? Granted that the kidney is extensively destroyed, we know these patients are not good objects for operation; they are suffering from considerable shock, and the manipulation necessary to find and grasp the bleeding artery, which perhaps has already become partly or completely occluded by blood-clot, and then start up hemorrhage in a fresh field, is attended with more harm than if we let these patients alone. We know from our experimental work on the kidney that if we tie off the renal vessels, and leave the kidney *in situ*, that kidney undergoes complete atrophy, and within a period of a few months the kidney will be a mass of cicatricial tissue. That condition undoubtedly takes place in a certain proportion of cases where the kidney has been severely injured.

DR. E. W. ANDREWS, Chicago: I have seen a man with a ruptured kidney on whom I had operated, and declined to remove the kidney because I thought I had successfully ligated the bleeding point, three days afterward get another severe, violent hemorrhage and die within a few minutes. We cannot get away altogether from the old teaching that a ruptured kidney is apt to cause death when conservatively treated, that is, nothing being done in the way of interference. I do not think we should stand by and let these patients with ruptured kidney have one hemorrhage after another without doing something for them; but it does not necessarily follow that nephrectomy is the only operation of choice in these cases, for sometimes, in addition to ligating the bleeding points, we can close the injured kidney with rows of mattress stitches, and if such an operation is done under aseptic conditions, it might give a percentage of successful results which would compare favorably with nephrectomy as a life-saving measure.

DR. WALTER COURTNEY, Brainerd, Minn.: I have seen many cases of injury of the kidney. If the surgeon will wait a few days, as he may in most cases, provided hemorrhage is not alarming and secondary anemia has not taken place, a large number of these cases will gradually clear up, and it will be found that the kidney has only been contused.

DR. JAMES E. MOORE, Minneapolis: It is only in exceptional cases that a nephrectomy is justified for rupture of the kidney. A patient was brought into the University Hospital recently, thirteen days after he had been thrown in a runaway accident, and presumably had sustained a ruptured kidney. He was brought to us in a moribund condition with his bladder full of clotted blood. He died. At the post-mortem examination we found that he had sustained a rupture of one of the terminal branches of the renal artery just before it entered the kidney, and the presence of blood in the urine was accounted for by the fact that through pressure the blood was transmitted along and had broken through into the pelvis of the kidney at a point below and finding its way down the ureter into the bladder.

DR. DONALD MACRAE, Council Bluffs, Ia.: It seems to me, it is well to take a middle ground in dealing with injuries of the kidney. If we make a positive diagnosis of post-peritoneal rupture of the kidney or of contusion, the case is not fraught with as much danger as other forms of injury to this organ. But if we find a patient is failing, we should resort to incision, with drainage, or whatever is necessary to be done at the time. It is better, however, not to fuss with the kidney if we can help it.

Commissions and Division of Fees

DR. JOHN P. LORD, Omaha, Neb.: Realizing that the practice of fee-division, joint fees and giving commissions is increasing at an alarming rate among the younger element, and that in many cities and towns it is the usual thing, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this problem and will yield to the general trend of practice unless some moral force within the profession or the effect of publicity checkmates this menace to professional honor, dignity and decency. I agree with those who favor publicity as the speediest and most effective remedy. We should maintain a professional and public sentiment against any countenance of graft. The practitioners who have for years adhered to an inelastic fee bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is something of a law unto himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's faculty of fee getting and ask him to add a sum for them, as the people would object to paying them a proper amount.

Our medical schools have been remiss in their ethical instruction to students. The subject has been eschewed in some faculties for fear of engendering feeling, developing strife and endangering the integrity of the organization. The same silence has prevailed in medical societies because it might cost something to speak. There has already been more harm done than can be overcome for a generation. Delayed action means more sacrifice. The organized profession should busy itself in reformation and take its stand in our medical colleges, hospitals and societies, and as individuals, and educate the public and reform our own members. The most hopeful view may be taken of the result. Any practice which even smacks of graft, or of obtaining money under false pretenses, cannot endure before a righteous public opinion. Nor will it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority during all the ages of the history of medicine.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 14, 1910

The President, DR. HENRY LEFFMANN, in the Chair

Surgical Pathology of Chronic Constipation

DR. L. J. HAMMOND: The surgical problem involved in chronic constipation concerns itself with those forms of constipation the result of mechanical factors which act either by inducing organic changes or local disease of the bowels. Chronic constipation is not a disease but a manifestation of disturbance or disease which alters intestinal function. Improvement follows the correction of such alteration. The surgeon frequently notes the existence of all sorts of variations from the normal relation and position of the abdominal viscera directly responsible for many cases of chronic constipation. The treatment of a person presenting the chain of symptoms resulting from mechanical obstacle to free intestinal drainage should be palliative only so long as is necessary to determine the character and extent of the pathology. In the majority of cases, to secure permanent benefit, the surgical treatment need go no further than the correction of malformation and faulty positions, division of bands, breaking up of adhesions, the removal of tumors, the replacement of the displaced viscera and removal of cicatricial strictures. If a stricture involves a greater portion of the intestinal wall than the serous coat, excision and anastomosis may be required. The more radical operation of colopexy advocated by Lane may be left to that extremely small group of cases in which, from long standing ptosis, the viscera have become so hopelessly displaced, angulated and dilated that it is impossible to restore drainage sufficient to empty the loaded sacculated loops.

Symptoms and Complications of Constipation

DR. DAVID RIESMAN: Strictly speaking, constipation is in itself only a symptom, and not a disease entity, and thus imposes on the physician the obligation to search out its cause. A thorough physical examination may reveal doughy masses in the abdomen, a contracted colon or ptosis of the viscera. Hyperchlorhydria is present in many cases and the constipation yields with the cure of the gastric condition. Anal fissure or hemorrhoids may be present either as cause or effect.

Constipation may be due to poisons, especially lead. In the majority of ordinary cases of constipation assimilation is probably too good, so that there is not enough residue to ferment under the influence of bacteria or mechanically to stimulate intestinal peristalsis. To this fact the constipation of many infants may be ascribed. The proof of auto-intoxication of gastro-intestinal origin is not conclusive. Indicanuria is not a correct measure of intestinal putrefaction; neither is the estimation of the amount of conjugate sulphates in the urine. A considerable quantity of such substances is eliminated in the feces and would have to be estimated if the degree of intestinal putrefaction is to be determined. Intestinal auto-intoxication is a possible condition but there is no clinical test by which it can be measured. Various forms of constipation due to organic causes are discussed, especially those of malignant tumor, perisigmoiditis, chronic appendicitis; also those produced by hernia, fibrous bands, Meckel's diverticulum, stricture and ovarian disease, and by pressure from without. Whether constipation *per se* increases blood-pressure has not been definitely determined, but the benefit accruing to an apoplectic patient from a free evacuation of the bowels would point in that direction.

Discussion on Constipation

DR. FREDERICK J. KALTEYER: From a clinical point of view it should be our aim to study carefully the various clinical symptoms of constipation. Laboratory methods will not suffice in determining the degree of intestinal symptoms present. We should endeavor to treat patients as much as possible without drugs, having recourse rather to the hygienic, and to ingestion of foodstuffs with a large residue. The lower bowel is often at fault, and in such cases there should be cleansing with enemas of water or oil.

DR. LEWIS H. ADLER, JR.: It is important that the diet should contain food products allowing enough residue to stimulate peristalsis. In the matter of treatment, I direct the patient to go to the closet at a regular time each morning. If there is lack of tone, as is usually the case, I have them come to my office and use an injection. Another method of treatment used with excellent results is the use of a bag inserted at the sigmoidal junction inflated with air which tends to stimulate peristalsis. Exercise and the effort of proper breathing are helpful factors in treatment. I am opposed to the use of very large injections in the ordinary functional case of chronic constipation.

DR. ERNEST LAPLACE: We should remove all possible causes, surgical and organic, that lead to constipation. There are certain forms of intestinal stasis resulting from long-continued malnutrition which should be corrected.

DR. GEORGE ERETY SHOEMAKER: Much of the failure in treatment is due to the lack of persistence on the part of the patient. There are few who will give the time, money and effort to the overcoming of this troublesome condition. We tell the patient to go to the closet at a fixed hour, but this may mean the establishment of a separate toilet for the patient. Then, too, the patients must not be hurried for fear they will be seen, or otherwise made uncomfortable. Attention to the diet, the ingestion of a sufficient amount of water and the carrying out of proper methods of exercise for a sufficient length of time will often work a wonderful cure, but it takes time.

DR. ALFRED HAND, JR.: I agree with those who have advocated conservative treatment, and yet I would emphasize the fact that a number of patients need surgical treatment. Many cases are due to definite inflammatory changes in the abdominal cavity and in these conservative treatment does not avail.

DR. DAVID RIESMAN: I agree with what has been said about the value of habits and food. One article of food which has given satisfactory results is an apple eaten at night, thoroughly masticated, and taken with a glass of water. Another measure of value is the massage roller, the applications following the line of the colon. Low injections of cottonseed oil at night and held in all night have effected cures in a certain proportion of cases of the ordinary type of constipation.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 7

1 Treatment of Gonorrhea in Women. H. J. Boldt, New York.
2 Primary Sarcoma of the Appendix. C. A. Powers, Denver.
3 Nervous Affections and Adjustments of the Eyes. G. T. Stevens, New York.
4 Optic Nerve Changes and Cranial Malformations. A. Gordon, Philadelphia.
5 Twilight Talks with the Doctor. G. F. Butler, Chicago.
6 *Lymphoid Degeneration of the Conjunctiva. H. W. Wandless, New York.
7 Eosinophilia and Anaphylaxis. E. Moschcowitz, New York.
8 Manic-Depressive Insanity or Recurrent Insanity. M. Talmey, New York.
9 *End-Results of Surgical Operations on Nervous Women. S. T. Rucker, Memphis.
10 Diphtheria of the Vulva in a Child of Three. L. L. Smith, Washington, D. C.

6. **Lymphoid Degeneration of the Conjunctiva.**—It is Wandless' belief that trachoma is a non-specific disease; that it is in reality a lymphoid degeneration of the conjunctiva, a title he proposes for trachoma as being far more expressive. The principal lines of thought embodied in his paper are: (1) trachoma is non-specific and non-contagious; (2) follicular conjunctivitis and trachoma are one and the same disease; (3) pannus must be regarded as reparative; (4) trachoma is evidently chronic and self-limited in its nature; (5) predisposition and susceptibility are important causative factors; (6) trachoma may be caused by one or more of a number of agencies; (7) digestive disturbances, including auto-intoxication, are potent in the cause of trachoma; (8) errors of refraction deserve careful consideration as contributing causes of trachoma; (9) adenoids of the nasopharynx and trachoma are similar processes; (10) heredity, which has been practically excluded from causation, is undoubtedly an important factor.

9. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2005.

Medical Record, New York

January 7

11 Increasing Frequency of Inherited Syphilis and Importance of Its Early Recognition from the Standpoint of the Ophthalmologist. C. S. Bull, New York.
12 Hints for the General Practitioner on the Nature, Etiology and Early Diagnosis of Insanity. C. F. Macdonald, New York.
13 Pellagra. J. Collins and L. Sheldon, New York.
14 Ventilation of Kitchens and Bakeries. W. A. Evans, Chicago.
15 Surgical Anatomy of the Abdominal Wall with Reference to Appendectomy. W. E. Tobie, Portland, Maine.
16 Theory as to the Untoward Effects of Diphtheria Antitoxin; Prophylaxis in Suspicious Cases. R. Wallace, Chattanooga, Tenn.
17 The American Game of Football: Is It a Factor for Good or Evil? M. J. Clurman, New York.

Boston Medical and Surgical Journal

December 29

18 *Principles Underlying the Study and Treatment of Chronic Arthritis. H. W. Marshall, Boston.
19 Radium Therapy. L. Wickham, Paris.
20 *The Care and Management of the Tabetic Bladder; Etiology. J. D. Barney, Boston.
21 Biography of Charles Spon, M.D. C. G. Cumston, Boston.

January 5

22 *Prevention and Treatment of Typhoid with Antityphoid Vaccine. F. F. Russell, Washington, D. C.
23 *Antityphoid Inoculation as Introduced into Certain Training Schools for Nurses in Massachusetts. M. W. Richardson and L. N. Spooner, Boston.
24 The Fresh-Air School. J. Perkins, Providence, R. I.
25 *Care and Management of the Tabetic Bladder: Prognosis and Treatment. J. D. Barney, Boston.

18. **Treatment of Chronic Arthritis.**—Marshall considers arthritis a symptom of many diseases. The most severe deforming types that stubbornly resist treatment and the mildest kinds that are easily controlled and permanently cured, he thinks, have similar origins. They differ only in the degree of severity with which the underlying causes act. Arthritic disease in every stage may often be modified by treatment, sometimes only slightly, and sometimes to a great degree, permitting permanent cures not infrequently. Proper

application of simple hygienic measures and correction of defective personal habits are the most adequate means of treatment in the early stages. Increased efficiency in treatment depends on greater clearness in understanding normal physiologic conditions that control health of joints, and also increased skill in treating diseases of other organs and infections that act as causes.

20. **Causes of Urinary Disturbances in Tabes.**—It is pointed out by Barney that the urinary disorders of tabes are dependent on (a) a disturbance in the transmission of sensory impulses from bladder, (b) incoordination of the muscles of micturition, (c) urinary infection.

22 and 23. **Antityphoid Inoculation.**—The authors of these two papers favor antityphoid vaccination. They claim that the inoculated individuals have acquired an increased resistance to typhoid infection which will last for several years at least.

25. **Treatment of Bladder Infection in Tabes.**—According to Barney, infection of the urinary tract occurs in over 50 per cent. of patients with tabes dorsalis. The mortality from such an infection is nearly 60 per cent. Catheterization and irrigation of the bladder, at regular and frequent intervals, combined with the constant use of an efficient urinary antiseptic will (a) delay, prevent or reduce the activity of urinary infection; (b) postpone the appearance of residual urine, or diminish its amount if present; (c) relieve symptoms. Reeducation of the muscles of micturition, combined with local treatment, will cure or relieve most of the symptoms which harass the life of a tabetic. It is, therefore, of the utmost importance. Barney urges that the combined treatment of the nervous system and of the urinary tract is essential for the welfare of the patient.

Lancet-Clinic, Cincinnati

December 31

26 Pathology and Etiology of Dysmenorrhea. J. W. Rowe, Cincinnati.
27 Cardiac Weakness, Its Causes and Treatment. J. H. Honan, Bad Nauheim, Germany.

Medical Fortnightly, St. Louis

December 26

28 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
29 Spina Bifida. W. L. Crosthwait, Holland, Texas.

American Medicine, Burlington, Vt.

December

30 Pyelitis in Pregnancy, Its Etiology and Cystoscopic Diagnosis. E. McDonald, New York.
31 Clinical Observations on Blood-Pressure with Special Reference to the Effect of Prostatic Massage. D. M. Cowle, Ann Arbor, Mich.
32 A New and Safe Method for the Submucous Removal of the Deflected Bony Septum. O. Glogau, New York.
33 Tuberculous Pericarditis and Myocarditis. F. O. Manning, New York.
34 Peritonsillar Abscess with Description of a New Instrument for Opening and Irrigating the Abscess Cavity. H. Hays, New York.
35 Results Obtained with Intravenous Medication. J. F. Sommes, Vincennes, Ind.

University of Pennsylvania Medical Bulletin

December

36 A Case of Patent Ductus Arteriosus Botalli. E. H. Goodman, Philadelphia.
37 Early Operation for Psoas Abscesses. J. K. Young, Philadelphia.
38 The Medical Side of Benjamin Franklin. W. Pepper, Philadelphia.

New York State Journal of Medicine

December

39 *Control of Typhoid in the Army by Vaccination. F. F. Russell, U. S. Army.
40 *Relation of the Interstitial Cells of the Testicle to Its Internal Secretion. A. M. Fappenheimer and B. Schwartz, New York.
41 *Latest Experiences with Salvarsan (606). W. Wechselmann, Berlin.
42 Early Diagnosis of Syphilis Through the Living *Spirochæta Pallida*. E. W. Ruggles, Rochester, N. Y.
43 Gonorrheal Arthritis Treated by Gonococcus Vaccines. G. R. Satterlee, New York.
44 The Objects and Aims of Medical Education. J. Van Duyn, Syracuse.

39. Also published in the *Boston Medical and Surgical Journal*, Jan. 3, 1910; see Abstract No. 22.

40. **Relation of Interstitial Cells of Testicle to Its Internal Secretion.**—Illustrations are cited by Pappenheimer and Schwartz to show that the orderly development of the primary and secondary sexual characters is controlled by complex factors—some of which at least, lie without the genital sphere itself. While the authors do not deny that the testicle exerts a definite chemical influence on the whole organism, they are unwilling to admit that the evidence at hand is sufficient to connect the interstitial cells specifically with the supposed internal secretion. Not only has it been impossible for them to eliminate the Sertoli cells from consideration, but it has been shown that the interstitial cells may be abundantly present in cases of arrested or incomplete development of the sexual characters. They believe that it is highly probable that further research will reveal correlations and antagonisms between the genital organs and other glands of internal secretion, and that the too simple theory which ascribes the entire complicated series of changes attending the development of the sex characters, to the interstitial cells alone, will have to be modified or abandoned.

41. **Experiences with Salvarsan.**—The first attempts at the cure of hereditary syphilis in the new-born were in the patients afflicted with pemphigus and who were no doubt doomed to an early death. In some a dose of 0.3 gm. produced symptoms which could be ascribed to toxemia produced by the destruction of a large number of spirochetes from the internal organs. Wechselmann then gave doses of from 0.015 to 0.02 gm. which was repeated in from eight to twelve days. The first patient was cured after having received 0.015 gm. on April 4 and on April 15. No recurrence has taken place thus far. But, because the Wassermann reaction, which had become negative, again became positive on June 27, another injection was given which resulted in a negative reaction. Wechselmann has in this way treated five other cases of syphilis in the newly-born, and in all the infants the symptoms have been arrested without any harmful after-results. This encouraged him to reinject with a stronger dose patients with most malignant syphilis previously reported, who had shown brilliant results, but in whom small remaining ulcerations showed that a complete cure had not been effected, owing no doubt to too small doses. These second injections were made when complete elimination of the first dose could be safely expected. The number of partial failures is infinitely small compared to the large number of prompt cures; Wechselmann has now treated 1,050 cases.

The number of reinjections for recurrence is also remarkably small. In the majority of cases only very small foci could be detected; the exception to this was two cases. In one patient with originally severe syphilis, Wechselmann found fifteen small and much softer infiltrations and in another, injected on June 29 with 0.5 gm., a second injection was given, because the Wassermann reaction was still positive on August 23 and the man was suffering at that time from impetigo capitis. Other reinjected cases were, one of periostitis; two of iritis; one of chorioiditis; one a slight trochlear paralysis; one case of abducens paralysis and one case of angina. In another rather unusual case the patient received a second injection. This patient was a strong, otherwise healthy man who had received 0.5 gm. acid solution on June 16 for a primary lesion and papular syphilides, and who had on August 24 a curious attack of an aura ascending from the legs accompanied by loss of consciousness and biting of tongue. The Wassermann reaction was positive at the time of the second injection. In two patients, in the second and third months respectively after the injection, and with a negative Wassermann reaction, occurred severe headaches which did not yield to usual headache remedies, but which were promptly cured by a second injection. In some of these cases a previous mercury treatment was unsuccessful.

Recognizing fully the severer lapses observed by others, Wechselmann is of the opinion that these relapses were probably due to the setting free of encapsulated deposits by the remedy. These observations have been made in the late stages of cases treated with mercury, in which the repeated courses of treatment had removed most of the spirochetes in

the body. He believes that we should not exceed the well-established curative dose of from 0.5 to 0.6 gm. for men and 0.45 for women, which may be repeated in the infrequent relapses. Wechselmann has now treated more than 1,000 cases by the subcutaneous or intramuscular injection of doses from 0.45 to 0.6 gm. and has never seen any toxic effects. Slight degrees of arsenic poisoning have occurred in a few cases, such as gastric symptoms and atonica of the intestine, which may be explained by the well-known effects arsenic has on the contractile tissues of the mesenteric vessels.

Among the contra-indications to the use of salvarsan have been mentioned weak heart and organic cardiac disease. Wechselmann has treated two patients with dilatation of the aorta with small aortic aneurysm at first with doses of 0.3 and 0.1 gm. respectively, without doing any damage. He has also treated successfully a man, aged 85, with extensive arteriosclerosis, suffering from a primary sore of the prepuce and papular syphilitic skin eruption, the dose being 0.4 gm. He has grave doubts about treating patients with very weak and flabby heart-muscle, such as we often find in tabes; equally so, patients with stenosis, because he is afraid of the depression of arterial blood-pressure which takes place in arsenic poisoning. But a weak heart is furthermore a contra-indication on account of the hypersensitiveness to the medicine found in some patients. The second important fear about the new remedy was in regard to damage to the optic nerve, on account of such effect by other arsenic derivatives. This fear has, however, so far not been confirmed. At first all patients with diseases of the optic nerve were excluded; later, in some doubtful cases, they were treated. Wechselmann has, in six cases of either beginning or advanced optic nerve disease, used the remedy in the hope of arresting the progress of the atrophy. In none was the nerve condition made worse, so that further careful trials in such cases should be made.

New Mexico Medical Journal, Las Cruces

December

45 Surgical Progress in the Past Ten Years. J. W. Colbert, Albuquerque.
46 Treatment of Wounds. F. de la Vergne, Albuquerque.
47 Operative Treatment of Uterine Retrodisplacements. C. M. Yater, Roswell.

Montreal Medical Journal

December

48 Medicine of the Earlier Days of Montreal. W. G. Stewart, Montreal.
49 The Cure of Syphilis. F. McK. Bell, Ottawa.
50 Typhoid Perforations and Perforations of the Gall-Bladder. G. E. Armstrong, Montreal.
51 Double Radical Frontal Sinus and Antrum Operation. E. H. White, Montreal.
52 Miliary Tuberculosis of the Choriold. G. H. Mathewson, Montreal.

Northwest Medicine, Seattle

December

53 Bilateral Renal Calculus. E. O. Jones, Seattle.
54 The Fibroid Uterus. A. E. Rockey, Portland, Ore.
55 Clinical Cases of Pellagra. R. E. Dunlap, Portland, Ore.
56 Etiology of Cholecystitis. J. E. Else, Pullman, Wash.
57 *Tochil, or Endemic Hemoptysis. M. M. Null, Seattle.
58 Facts Concerning Myopia of Children. E. E. Maxey, Boise, Idaho.
59 Surgical Treatment of Cancer of the Prostate. G. S. Whiteside, Portland, Ore.
60 Vaughan's Typhoid Residue. H. E. Coe, Seattle.
61 Is a High Total Acidity of the Urine Pathognomonic of Cardiac Disease? A. M. Smith, Tacoma, Wash.
62 Should Cobwebs Cover the Obstetric Forceps? G. S. Wright, Friday Harbor, Wash.

57. **Tochil, or Endemic Hemoptysis.**—Tochil, or endemic hemoptysis, is an endemic disease, caused by a distomum or flat worm that burrows in the tissues, characterized by a chronic cough, a rusty, brown pneumonia-like sputum, hemoptysis, anemia and toxemia. It is limited in its geographic distribution. So far as Null knows, it is found only in Korea, Formosa, and parts of Japan. A doubtful case has been reported in China. No cases have been reported in America. Null's patient was a Korean who came from Seoul five years before; for two years he had been coughing, and for one year he had been spitting blood. He was 26 years old, large and well built. His pulse was 80, respiration 22, temperature 98.5 F. He did not complain of pain, and his appetite was moderately good. Physical examination showed the apices sunken on both sides, slight dulness on the right side, with a small cavity in the upper lobe. Expansion was normal. Urine was normal. Blood-examination showed Hg 60 per cent., erythrocytes 4,800,000, leukocytes 10,000. He was weak—not able to do normal labor. Having seen many cases of the disease in the Orient, Null at once recognized it and an examination of the sputum proved it to be tochil.

Null regards the occurrence of tochil, or endemic hemoptysis in Seattle as a very important matter to the Pacific Coast states, as the conditions here are almost identical with those of central Korea and parts of Japan as regards climate, mountains and valleys, temperature and water supply, so that if the disease once gets a foothold in this country we can hardly expect to eradicate it. One patient in the course of a day can throw out indiscriminately thousands of eggs from his lungs, enough to infect a village or a whole valley. Therefore, it is important for boards of health to look after the matter in time to prevent it gaining an entrance into the country. Most frequently the victims of tochil live a long time, and become anemic and weak, being scarcely strong enough to move about. They are then called indolent, the infection producing very much the same conditions socially as the hookworm in the South. If one man out of four is an invalid, as in some sections of Korea, then we can see to what extent the ravages of this disease may spread.

Old Dominion Journal of Medicine and Surgery, Richmond

December

63 Service in the Navy Medical Corps. W. S. Thayer, Baltimore.
64 Diagnosis and Pathogenesis of Acute Anterior Poliomyelitis. A. Gordon, Philadelphia.
65 Diagnosis of Syphilis by Demonstration of *Spirochæta Pallida*. L. T. Price, Richmond.
66 Budd of Chatham. H. A. Royster, Raleigh, N. C.

Long Island Medical Journal

December

67 Relation of Flies to the Transmission of Infectious Diseases. H. D. Pease, New York.
68 Eradication of the House-Fly. F. Overton, Patchogue, N. Y.
69 *Surgery Among the Insane. W. W. Skinner, Geneva, N. Y.
70 Treatment of Fractures of the Lower End of the Radius. A. H. Baker, Elmira, N. Y.
71 Methods of Study and Treatment of Diabetes Mellitus. J. R. Williams, Rochester, N. Y.
72 Abdominal Contusions. M. Figueira.
73 Use of Desiccated Liver Extract in Diabetes and Chronic Gastro-Intestinal Auto-Intoxication. O. L. Mulot, Brooklyn, N. Y.

69. **Surgery Among the Insane.**—Regarding the mortality rate of operations on the insane, it has been Skinner's experience that in the purely psychic states operations are borne as well as among the sane. To be sure, he says, operations should be avoided during periods of excitement, since in those periods the vital powers are at their lowest ebb and the tendency of the disease itself to a downward or fatal course is a factor always to be borne in mind. In the forms of mental disease accompanied or caused by degenerative changes throughout the nervous system, such as paresis and cerebral syphilis, there is little doubt but that operative measures, with or without anesthesia, may hasten the terminal period. In these forms of disease, abdominal operations are especially hazardous, since the relaxations of muscle fiber render intestinal paralysis and obstructions much more frequent in occurrence, and resistance to infections more feeble. One fact which has impressed itself vividly on Skinner in his work the past seven years in the state hospital is the frequency of intestinal obstructions, especially of the volvulus type, in the insane. Both paretics and dements seem extremely liable to this accident; and, owing to the mental condition of these patients, the recognition of the trouble is extremely difficult until after gangrenous or peritonitic changes have so emphasized the symptoms as to call attention to the true state of affairs. In four cases he found parts of large portions of the intestine literally black with gangrene, and in one of these sloughing and escape of fecal contents had occurred. He says that in the purely depressive types of insanity benefit mentally may be expected, when, and only when, the local condition is the active factor in the causation of the health depression which underlies the insanity. The female paranoiac dement neither loses her obsessions nor gains her logical power on losing the uterus. For these reasons Skinner emphasizes

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the absolute necessity of making accurate diagnoses of the mental disease before making roseate prognoses in operations on the insane.

St. Louis Medical Review

December

74 Gonorrhea in Its Relation to Puerperal Morbidity. D. Longaker, Philadelphia.
75 Iritis: Symptomatology, Diagnosis and Treatment. J. Clothier, Philadelphia.
76 Early Detection of Tuberculosis. J. C. Blossom, Richmond, Ind.
77 Medical Treatment of Chronic Interstitial Nephritis. G. B. Lake, Wolcottville, Ind.
78 Referred and Reflected Symptoms of the Abdomen. H. E. Randall, Flint, Mich.
79 Conditions Governing the Choice of Operation for Vesical Calculus. W. L. Munro, Providence, R. I.
80 Treatment of Rheumatism. W. F. Barclay, Pittsburg.

The Journal of Cutaneous Diseases, New York

November

81 Bacteriotherapy in Certain Diseases of the Skin. M. F. Engman, St. Louis.
82 Vaccine Therapy as Applied to Skin Diseases. T. C. Gilchrist, Baltimore.
83 Vaccine Therapy in the Treatment of Diseases of the Skin at the Massachusetts General Hospital. H. P. Towle, Boston, and G. P. Lingenfelter, Denver.
84 *Lichen Nitidus. R. L. Sutton, Kansas City, Mo.
85 Dermatitis Vegetans. D. K. Smith, Toronto.
86 Scrofuloderma Treated with the Roentgen Ray. A. G. Nadler, New Haven, Conn.

December

87 The Nature of Eyelid Xanthoma. S. Pollitzer, New York.
88 *Cancer in Tar Workers. J. F. Schamberg, Philadelphia.
89 *Granuloma Pyogenicum. U. J. Wile, New York.

84. **Lichen Nitidus.**—Lichen nitidus is described by Sutton as a chronic, papular disease of the skin, probably tuberculous in origin, which is characterized by the presence of minute, painless, flat-topped, shiny, flesh-colored lesions which do not exhibit a tendency to grouping and never become confluent. Histologically, the lesion is a granuloma (not a tubercle), which originates in the tip of a papilla, and as it gradually increases in size, follows the lines of least resistance and grows upward into the epidermis, shutting off and enclosing any projecting cell masses that may result from pressure or cell overgrowth. Sutton reports one case.

88. **Cancer in Tar Workers.**—Schamberg examined about twenty men whose work caused them to become besmeared with tar. In the manufacture of tar paper the men's arms are soiled with tar and their clothing is more or less saturated. Most of the men stated that they suffered from time to time from outbreaks of "yellow heads" on their arms, but these soon passed away. In a number of workmen, he saw mild acneiform eruptions on the arms, representing a folliculitis. Five workmen were found showing evidences of beginning or well-developed tar-cancer.

89. **Granuloma Pyogenicum.**—Wile cites two cases of granuloma pyogenicum, a condition clinically characterized by a pedunculated, rapidly growing, slightly painful, easily bleeding tumor, which, microscopically, can be regarded as simple hypertrophic granulation tissue. At times the tumor is painful, as often not so. Almost without exception these tumors are pedunculated, there is marked tendency to recurrence after removal, provided cauterization of the base has not been done. Superficial ulceration occurs in about half the number of cases, and when present gives rise to frequent and easily induced hemorrhage. Histologically, too, there is a great uniformity in the findings. In all cases, the tumor is one primarily of young connective tissue; in all, the presence of blood-vessels in greater or less number is noticeable. The plasma cell content of the tumors was in no case sufficiently striking to attract marked attention, although present to a degree in all cases. Wile believes that the entire group of so-called pseudo-botryomycosis, granuloma simplex, granuloma telangiectoides, and granuloma pyogenicum, may be placed in one class, and may be regarded as ordinary granulation tissue, appearing, for as yet undetermined reasons, in the unusual form of a tumor. The etiologic factor is not a fungus, but probably the *Staphylococcus aureus*, perhaps in an unfavorable soil or in an attenuated form. The histologic changes are essentially the same for all forms, minor differences being simply in degree of vascularity and inflammation. In no instance is there any connection between these tumors and the sweat-glands. Although never malignant, the growths tend to recur, unless cauterization of the base is practiced. The treatment consists in removal and cauterization.

Journal of Ophthalmology and Otolaryngology, Chicago

December

90 Lymphangiectasis Multiplex. J. F. Burkholder, Chicago.
91 Salvarsan: Its Therapeutic Possibilities in Ophthalmology. W. O. Nance, Chicago.
92 An Unusual Sequestrum Resulting from Suppurative Otitis Media. A. H. Andrews, Chicago.
93 Cocain as a Local Anesthetic. B. H. Breakstone, Chicago.

Proctologist, St. Louis

December

94 Treatment of Painful Fissures and Hemorrhoids by High-Frequency Currents. A. Tierlinck, Ghent, Belgium.
95 Sepsis of the Rectum Due to Trauma. C. H. Wintsch, Newark, N. J.
96 Colica Mucosa. E. H. Thrailkill, Kansas City, Mo.
97 Colitis. W. H. Stauffer, St. Louis.

Buffalo Medical Journal

January

98 *Intussusception in Infants. H. E. Hayd, Buffalo.
99 Epilepsy, the Neuropathic Diathesis and Heredity. G. M. Gould, Ithaca, N. Y.
100 *Case of Intraperitoneal Hernia. W. L. Wallace and J. S. Allen, Syracuse, N. Y.

98. Abstracted in THE JOURNAL, Oct. 15, 1910, p. 1403.

100. **Intraperitoneal Hernia.**—In the case cited, all the small intestines, except the first and last three inches, with the entire mesentery, were contained in a hernial sac. The intestines passed behind a band in the free border of a fold which formed an inferior duodenal fossa, and then pushed anteriorly, distending the double layer of the inferior duodenal fold to form a sac which filled the peritoneal cavity. The sac hung loosely, connected with the posterior abdominal wall by a comparatively narrow neck or pedicle, having a mouth above and to the left which was a little larger than a silver dollar. The intestines were carefully withdrawn and when the sac was half emptied, the mass was delivered outside the abdomen. The remainder of the intestine now having been withdrawn, the collapsed sac, which was then about six inches long, hung from the posterior abdominal wall just below the duodeno-jejunal flexure. The band in the neck of the sac contained no blood-vessels of any size, and the sac which was formed by a double layer of peritoneum was tied off and removed. The wound was closed without drainage. Three weeks later the patient had recovered and left the hospital.

Journal of the Indiana State Medical Association, Fort Wayne

December

101 *Serodiagnosis of Syphilis. J. P. Simonds, Indianapolis.
102 Tubo-Ovarian Hematocele Simulating Extrauterine Pregnancy. P. F. Martin, Indianapolis.
103 *Fracture of the Patella. P. J. Barcus, Crawfordsville.
104 Sketches of the Medical History of Indiana. G. W. H. Kemper, Muncie.

101. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1670.

103. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1837.

Journal of the South Carolina Medical Association, Charleston

November

105 Psychology of Pellagra. J. W. Babcock, Columbia.
106 Pain as a Symptom of Disease Involving the Right Half of the Abdomen. B. B. Steedly, Spartanburg.
107 Poliomyelitis, Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.
108 *Amebas as the Cause of Pellagra. W. B. Young, Rock Hill.

108. **Amebas as the Cause of Pellagra.**—It is Young's belief that pellagra is caused by one of the protozoa (amebas) which infects the large bowel, because, wherever amebas are found in the South, pellagra is also found, for amebas are found in every case of pellagra at some stage of the disease. It may require a severe saline purge and warming stage, but they can be found when the stools are properly searched. At autopsy, he says, ameba lesions can be found in every case of pellagra. The lesion may only be limited to a hyperemia, but that can be found. In all cases treated as amebiasis the patients improve of pellagra symptoms, if treatment is properly kept

up. Pellagra prevails in the months of April, May and June, on account of the ingestion of fruits and vegetables which contain quantities of sap. Thus the mucous membrane of the intestine becomes irritated and a more fertile field for the amebas is furnished. In July and August the trouble subsides in proportion as vegetables are less sappy. With the return of cooler weather in September and fresh crops of sappy vegetables, we have a return of the symptoms noticeable in the spring. Pellagra is more generally prevalent among poorly nourished people, and those with low vitality. Also its presence is to be noted in localities where the water is contaminated, where the hygienic surroundings are poor and the use of surface water is general.

Bulletin of the American Academy of Medicine, Easton, Pa.

December

109 The Teaching of Therapeutics. W. F. Waugh, Chicago.
110 Relation of the Individual to the Social Organism. J. H. McBride, Pasadena, Cal.
111 The Parent, the Strategic Point of the Present. C.-E. A. Winslow, Boston.
112 *Reduction of Infant Mortality in New York. T. Darlington, New York.
113 *Three Years' Experience of the Babies' Dispensary and Hospital of Cleveland in the Education of the Mothers. H. J. Gerstenberger, Cleveland.
114 *Outline for the Study and Prevention of Infant Mortality for Boards of Health of Small Cities. S. M. Gunn, Orange, N. J.
115 *Fit and Unfit Matings. C. B. Davenport, Long Island, N. Y.
116 *The Limits of Eugenics. A. G. Keller, New Haven, Conn.
117 *Responsibility of the Physician for Public Education in Physiology and Hygiene. J. M. Tyler, Amherst, Mass.
118 *The Foundations of Prevention. W. T. Sedgwick, Boston.
119 *The Concentration Plan of Teaching Medicine. H. A. Christian, Boston.
120 *The Medical Curriculum. W. H. Welch, Baltimore.
121 *State Boards and Entrance Requirements. H. Harlan, Baltimore.
122 *Teaching Ophthalmology. A. R. Baker, Cleveland.
123 *The College Association Standard. A. Flexner, New York.

112, 113, 114, 115, 116, 117 and 118. Abstracted in THE JOURNAL, Jan. 1, 1910, pp. 72, 73, 74 and 75.

119 and 123. Abstracted in THE JOURNAL, April 9, 1910, pp. 1228 and 1229.

120, 121 and 122. Abstracted in THE JOURNAL, April 16, 1910, pp. 1332 and 1333.

Journal of Nervous and Mental Diseases, Lancaster

December

124 *Seroreactions in Cases of Nervous and Mental Diseases. E. P. Corson-White and S. D. W. Ludlum, Philadelphia.
125 *Visual Disturbances in Multiple Sclerosis. T. Klingmann, Ann Arbor, Mich.
126 Case of Amyotonia Congenita. E. M. Hummel, New Orleans.
127 *Difficulties Encountered in Making a Diagnosis of Paralysis. G. H. Schwinn, Washington, D. C.

124. Abstracted in THE JOURNAL, July 16, 1910, p. 249.

125. **Visual Disturbances in Multiple Sclerosis.**—Klingmann says that prolonged visual disturbances without ophthalmoscopic changes are extremely rare in cerebral syphilis, but frequent in multiple sclerosis. Unilateral appearance of visual disturbances is common to both cerebral syphilis and sclerosis *en plaques*. Unilateral central, definitely circumscribed scotoma, with a normal field of vision in the opposite eye, is most likely to be due to syphilitic disease, it is always due to organic disease. Papillitis almost never occurs in multiple sclerosis, although hyperemia of the papilla at the beginning of sclerosis *en plaques* is not unusual, it is present in 14 per cent. of cases of cerebral syphilis. An absolute central scotoma is relatively rare in multiple sclerosis, frequent in neuritis axialoris. A central scotoma is not infrequent in both acquired and congenital syphilitic disease of the central nervous system. An unilateral, paracentral scotoma is indicative of a lesion in the optic nerve in the neighborhood of the foveal fibers and is most frequent in syphilis. Visual disturbances without ophthalmoscopic changes almost never occur in organic lesions of the opticus; and in most chronic diseases of the optic nerve and chiasma, the fundus, the visual field and central visual acuity are abnormal, except in sclerosis *en plaques* where negative ophthalmoscopic findings are frequently associated with abnormal visual acuity. Scotomata due to functional nervous disease are relative, never absolute. Hysterical scotomata are so infrequent that they should always suggest organic disease. In true multiple sclerosis early in the disease the most frequent symptom complex referred to the vision is: blurring or cloudiness of vision, negative ophthalmoscopic findings, absolute paracentral scotomata, normal peripheral field with little or no disturbance of central visual acuity. This combination is indicative of multiple sclerosis and when associated with exaggerated tendon reflexes is sufficient to establish this diagnosis. If the scotomata are but relative, hysteria would still be a possibility. If, however, the Babinski toe reflex is present on one or both sides, it can positively be eliminated. Klingmann cites twelve cases.

127. **Making a Diagnosis of Paresis.**—Schwinn urges that in all cases presenting clinical evidences of paresis, and in all cases in which there is an element of doubt as regards diagnosis, a cytologic and chemical examination of the cerebrospinal fluid should be made. Also, an examination of the blood and cerebrospinal fluid for the Wassermann reaction should be made. Further, all cases of paresis, or suspected paresis coming to necropsy should be studied histologically, as the brain does not always present the typical picture described when viewed with the naked eye. Paresis is a diffuse process, and all parts of the cortex are more or less involved, presenting an infiltration which presents numerous plasma cells. This differentiates it from other meningo-encephalides which are more focal in character. Schwinn believes that with a negative Wassermann reaction one can positively exclude paresis.

Archives of Pediatrics, New York

December

128 Need of More Complete Registration of Births. J. H. M. Knox, Baltimore.
129 Nasal Diphtheria. E. E. Graham, Philadelphia.
130 *Cold Air in Treatment of Acute Respiratory Conditions. J. P. C. Griffith, Philadelphia, and L. E. LaFétra, New York.
131 A Present-Day View of Infant Feeding. T. N. Gray, East Orange, N. J.
132 Relation of Orthopedic Surgery to Pediatrics. S. A. Twinch, Newark, N. J.
133 *Nephritis in Children. A. W. Bingham, East Orange, N. J.
134 Mechanical Injuries of the Head in Infants and Children. H. Illoway, Cincinnati.
135 *Congenital Goiter. E. W. Mooney, Detroit.

130. Abstracted in THE JOURNAL, May 21, 1910, p. 1712.

133. **Nephritis in Children.**—The main object of the treatment of nephritis in children, says Bingham, is to rest the diseased kidneys and give Nature a chance to restore them to their proper function. The child should be kept in bed on a light diet, consisting either of milk alone or milk and a moderate quantity of some farinaceous food. The bowels are kept active and the skin encouraged to assist in the work of the kidneys. Warm baths and hot packs are valuable aids, as also saline injections per rectum. The skin must be kept warm. Only mild diuretics should be used in order not to irritate the already inflamed kidneys. Potassium bitartrate in the form of lemonade or orangeade is a valuable means of increasing the quantity of urine when necessary, for besides acting as a mild diuretic it is one method of getting the child to drink the desired amount of water. It is well to change the flavor of this drink, or the child may soon tire of it. When the pulse is of very high tension only a moderate quantity of water should be taken. The return to a general diet must be slow, and it is difficult to regulate this satisfactorily in all cases, as these children are always calling for a greater variety of food. Bingham emphasizes the importance of more regular examination of the urine in children, especially following the acute infectious diseases. By doing so, he says, we will be able to detect the disease in its incipiency and save a certain percentage of cases from chronic nephritis and death.

135. **Congenital Goiter.**—Six cases are reported by Mooney. The following points are of interest in these cases: All six mothers were goiterous. Five mothers were multiparæ. One mother was a primipara. One mother had sugar in urine before labor. In one case the mother and grandmother were goiterous; in another the mother and two of her sisters were goiterous. In a third case there was a history of infection in the family. One child was born dead; one baby died two days after birth; one died two years after birth of bowel infection. Two were living when last heard from; another, 18 years old, was goiterous.

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Laryngoscope, St. Louis

December

136 Present Status of Otolaryngology. J. F. McKernon, New York.
137 Nasal Phenomena of Neurasthenia. C. P. Grayson, Philadelphia.
138 Respiration for Tone-Production. F. V. Laurent, Philadelphia.
139 A Fatal Case of Quinsy in an Adult. J. J. Thomson, New York.
140 The Straight Method of Laryngoscopy. R. H. Johnston, Baltimore.
141 Method by Which an Open Safety-Pin Was Removed from the Bronchus Without Closing the Pin. O. W. Turner, Augusta, Maine.
142 Scleroma of the Upper Air Passages. J. W. Durkee, Brooklyn, N. Y.
143 Symptoms of Temporo-Sphenoidal Abscess. L. W. Dean, Iowa City, Iowa.
144 Apparatus for Administration of Ether and Chloroform Vapor. C. C. Collier, Chicago.

Journal of the Medical Society of New Jersey, Orange

January

145 *The Alienist as an Expert Witness. W. H. Hicks, Newark.
146 *Relation of Water to Malarial Fevers. J. Walters, Wharton.
147 Fracture of the Internal Condyle of the Humerus. J. J. Mooney, Jersey City.
148 *New Operation for Complete Vesical Hernia in Women. J. M. Rector, Jersey City.
149 Etiology, Pathology and Treatment of Concomitant, Convergent Strabismus. L. Emerson, Orange.
150 Refracting Opticians. J. Thorington, Philadelphia.

145, 146. Abstracted in THE JOURNAL, Aug. 6, 1910, pp. 527 and 528.

148. **Operation for Complete Vesical Hernia in Women.**—Operating through the abdominal wall, Rector first divides the peritoneum on the anterior surface of the uterus almost at the fundus, dissecting laterally, right and left, sufficiently far so as not to form a medium ridge with lateral valleys when the denuded bladder floor is brought upward. The floor of the bladder is dissected from its bed, pulled up until the sacculation disappears and sutured to the anterior uterine fundus and wall. Uterine fixation to abdominal wall is done, by three sutures, one posterior to the fundus, one to the fundus, and the third at or near the junction of sutured surfaces. In some cases there has followed, for a few days only, some pain and bladder irritation from the changed position. This has been transitory only and need cause no alarm. Any repair work necessary to vagina or vulva can be done at the same time. Patients are catheterized every four or six hours and the bladder is irrigated if necessary; they are kept in bed two to three weeks. The usual care to feeding and bowel action is given.

Woman's Medical Journal, Cincinnati

December

151 Word Tests for Complexes in Four Cases of Disturbed Mentality. M. K. Isham, Columbus, Ohio.
152 Servants as Carriers of Disease. E. W. Young, Boston.
153 "Nervousness" and Education. The Rôle of the Teacher. T. A. Williams, Washington, D. C.

Journal of the Michigan State Medical Society, Battle Creek

January

154 Problems in Sanitary Science. G. L. Kiefer, Detroit.
155 *Scopolamin and Morphin. W. H. Morley, Detroit.
156 Chloroform and Ether. N. N. Wood, Ann Arbor.
157 Technic of Anesthesia in Obstetrics. J. B. Whinery, Grand Rapids.
158 Anesthesia in Its Relation to Postpartum Hemorrhage. J. N. Bell, Detroit.
159 Administration of Inhalation Anesthetics. C. E. Boys, Kalamazoo.
160 *Proposed Solution for Certain Phases of Contract Practice. W. H. Haughey, Battle Creek.

155. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1674.

160. **Solution for Phases of Contract Practice.**—In self-protection, Haughey deems it wise for county societies to elect committees whose duties should be to arrange terms and fees with workmen and factories, whereby injured employees would be cared for by members of the county society. A concession in fee rate should be granted, and a guarantee of payment obtained. Such an arrangement would secure to the injured employee his choice in professional services available in his community, and ensure to the surgeon his entire fee instead of merely for the first call. Advantages, first, to the patient: assurance of interested attendance throughout the entire case. Second, to the factories: assurance that the injured would receive competent surgical aid. Third, to the physician: assurance of not being robbed of professional acquaintance that he has labored years to establish.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 24

1 *Rest and Movement in Tuberculosis. R. W. Philip.
2 "Eye" in Sport. R. W. Doyne.
3 *Influence of Diet on the Formation and Healing of Acute Gastric Ulcer. C. Bolton.
4 Thyroid Grafting and the Surgical Treatment of Exophthalmic Goiter. E. W. H. Groves and C. Joll.
5 Common Causes of Discharge from the Ears, and Its Treatment. W. M. Mollison.

1. **Rest and Movement in Tuberculosis.**—While rest is helpful in the treatment of pulmonary tuberculosis, and indeed essential, at certain times, Philip emphasizes that the prolonged continuance of resting treatment is fraught with unsatisfactory results. In many instances the patients may seem to improve. Perhaps they put on weight in large amount. Often they become heavy and corpulent, but it is commonly mere fat; the skin textures remain pallid and toneless; the muscular tissue remains soft and flabby, and the individual himself is far from physiologically fit. So long as the tuberculous process is in active operation, toxins are readily elaborated and passed freely to the muscles with resultant progressive dystrophy. This dystrophy affects not only the muscles of the trunk and extremities, where it is evident, but affects likewise the heart-muscle, the muscles of the vessels, and the muscles of other viscera. At this stage the indication for treatment is mainly rest. Rest has the double advantage of tending to stay the active local lesion and of limiting the output of energy by the dystrophic muscles. On the other hand, when the tuberculous lesion is less active or in process of arrest, and the production and carriage of toxins is correspondingly less abundant and rapid, the dystrophic muscles tend to recover themselves physiologically. Nothing repairs muscular tissue so certainly as natural movement. This is the motif and guide in the institution of regular activity. As recovery proceeds further, the aim comes to be the restoration of physiologic function, both locally, so far as the respiratory function of the lung is concerned, and generally, so far as the circulation and the musculature are concerned. The process of repair is most readily traceable in the muscles of the trunk and extremities. By the institution of natural movements, the physiologic cure or "recreation" is assisted, and there follows a gradual return toward the normal condition of health of every organ. While natural repair is thus hastened by carefully adjusted movement, there is reason to suppose that at the same time a degree of relative immunization to tuberculosis is secured. It may be that under the influence of activity a process of autoinoculation is instituted. That is to say, by reason of the accelerated circulation a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react, and to produce certain opposing elements or antibodies. The amount of activity allowed must in every case be determined with exactness. Regard must be paid not vaguely to the nature of the case of the so-called stage of disease, but adjustment must be guided by the needs of the individual patient. Activity in excess may serve to aggravate the local process. The lung trouble may once more take on an acute character, and an especially significant point is that excessive discharge of toxins through the system may be recommenced. In other words, an exaggerated autoinoculation may ensue with corresponding retardation of cure.

3. **Diet and Gastric Ulcer.**—Following careful experimentation by Bolton, the theory with regard to the part played by the gastric juice in the production of gastric ulcer receives further confirmation, because ulceration is the more rapidly produced in proportion as the gastric juice is allowed a longer period of contact with the wall of the stomach. The epithelium grows over the base of an ulcer more rapidly when the animal is given a milk diet than when it is given a meat diet.

In the case of a milk diet the base of a moderate-sized ulcer is usually completely covered by the twentieth day, while in the case of a meat diet, the same-sized ulcer would in most cases be uncovered in the center in that time. Frequently, in the case of meat-fed animals, the ulcer is completely uncovered on the twentieth day, the granulation tissue of the base of the ulcer having become necrotic. Such an ulcer may be only one-fifth of the size of the original ulcer owing to the contraction of the fibrous tissue in the base, although healing has only commenced at the edge. In the treatment of a case of ulcer of the stomach, Bolton holds that the following principles should be observed: (a) During the early stages of the healing of acute ulcer the patient should be given a food which does not stay long in the stomach and which does not excite a copious flow of the gastric juice. (b) The period of treatment in bed should be at least three weeks. (c) The starvation diet of the older physicians is not necessary, because the general nutrition suffers too much, and because ulcers heal well on some diet such as the above. (d) In the case of acute ulcers which are extending, or chronic ulcers, healing cannot be expected to occur in three weeks, because the ulcer must first be got into a suitable condition for healing, and then, owing to its size and thickness, the healing must take some weeks longer to be completed, so that the treatment in bed is to be conducted like that of simple acute ulcer, but extended over a period twice as long. (e) Since in many cases of gastric ulcer there is hyperacidity of the gastric juice, and when the gastric juice is acting destructively hyperacidity increases this destructive tendency, this high degree of acidity should be controlled by the administration of alkali. This is not so necessary in acute ulcer as in the more chronic forms, because the few estimations that have been made of the gastric secretion in acute ulcer show that it is not hyperacid, and it has been found experimentally that the effect of acute ulcer is to diminish the secretion in the early stages, and that secretion becomes normal as the ulcer heals.

Lancet, London

December 24

6 The Disorder of Medical Charity. L. E. Shaw.
7 Medical Students and Medical Practitioners. G. H. Colt.
8 *Treatment of Splenic Anemia by Splenectomy. G. A. Sutherland and F. F. Burghard.
9 Surgical Treatment of Cancer of the Vulva and Its Precancerous Stage. F. J. McCann.
10 Value of Vaccination and Revaccination. F. M. Sandwith.
11 *Fatal Case of Anemia in Which the Widal Reaction was Obtained. P. Gully.
12 Use of Pituitary Extract in Obstetrics and Gynecology. S. J. Aarons.
13 Practical Sterilization of Potable Waters by the Ultraviolet Rays. J. C. Thresh and J. F. Beale.

8. **Treatment of Splenic Anemia.**—The authors report two successful cases of splenectomy for splenic anemia. One patient, a girl aged 12 years, was in very bad condition when operated on, the blood examination showing red corpuscles, 2,420,000; hemoglobin, 56 per cent., and white corpuscles, 9,800. A differential count of the white cells showed nothing abnormal. The spleen with the contained blood weighed 2 pounds, and showed general hyperplasia of all the tissues. There was no marked shock after the operation, and when the effects of the anesthetic had passed off, the patient made a rapid recovery. Three days after the operation it was found that the red cells had increased from 2,500,000 to 4,700,000, and the hemoglobin from 40 per cent. to 76 per cent., an improvement which was maintained until at the end of another week the red cells were normal in number. This alteration was also visible in the appearance of the child; the yellow tinge of the skin had gone, the cheeks were pink in color, and the lips had taken on a healthy red hue. There was no compensatory enlargement of the lymphatic glands. Four years after the operation, she was a well-grown girl in service as a nursemaid. There were no marked signs of anemia in her appearance. Blood examination showed red blood-corpuscles, 3,600,000; hemoglobin, 78 per cent., and white blood-corpuscles, 6,400.

The second patient was a girl aged 6 years. Examination of the blood gave the following result: Red blood-corpuscles, 1,870,000; hemoglobin, 30 per cent.; white blood-corpuscles, 2,400, and color index, 0.8. The red corpuscles were various in size, megalocytes, microcytes, and all intermediate gradations being present. There was a little polychromatophilia in some of the corpuscles, but it was not marked, and there was no punctate basophilia. The red cells were normally shaped, poikilocytosis being absent. Nucleated red cells, all normoblasts, were present to the extent of about 600 per cubic millimeter. Among the white cells there were large hyalines (0.4 per cent.), myelocytes (1.2 per cent.), and mast cells (1.2 per cent.). The patient stood the operation well, there was no marked shock, and after the effects of the anesthetic had passed off she had no untoward symptoms of any kind. Four days after the operation, the patient's color had decidedly improved, the lips were redder in color, and the yellow tint of the conjunctivæ and skin had gone. A blood-count gave red blood-corpuscles, 4,000,000; hemoglobin, 52 per cent; white blood-corpuscles, 10,800, and color index, 0.6. There were no abnormal red corpuscles, nucleated or degenerated forms, seen, and no abnormal leukocytes. The child improved daily. There was no compensatory enlargement of the lymphatic glands. On the seventeenth day after the operation the red corpuscles were 5,200,000, the white corpuscles 3,400, and the hemoglobin was 65 per cent. The patient, seven weeks after the operation, was well.

11. **Fatal Case of Anemia.**—Gully reports a case of pernicious anemia complicated by typhoid fever, in which the Widal test was positive in dilutions of 1 in 30 and 1 in 50 within one hour.

Medical Press and Circular, London

December 7

14 Diagnosis of Prolonged Pyrexia. F. Taylor.
15 Prostration Following Sea-Sickness, and Associated with Acetonuria. T. Bushby.
16 Soluble Milk Albumin in Infant Feeding. F. S. Toogood.

December 14

17 Three Cases of Duodenal Ulceration. F. de Havilland.
18 Acute Miliary Tuberculosis Simulating Appendicitis: Phagocytosis of Tubercle Bacilli by Cells in Cerebrospinal Fluid. F. X. Callaghan.
19 Cancer of the Larynx in the Light of a New Theory. R. H. T Scanes-Spicer.
20 Poliomyelitis: Its Etiology, Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.

Journal of Tropical Medicine and Hygiene, London

December

21 Mossman Fever. O. Smithson.
22 West Africa and Insurance: A Plea for Routine Blood Examination. T. F. G. Mayer.

Journal of Laryngology, Rhinology and Otology, London

December

23 Education of the Specialist in Laryngology, Rhinology and Otology. P. W. Williams.
24 Deafness and Diseases of the Ear in Relation to the Public Services and Insurance. J. Horne.
25 Mnemonic Tabes for Normal Labyrinthine Nystagmus. J. Adam.

Bristol Medico-Chirurgical Journal

December

26 The Medical Aspect of Boswell's "Life of Johnson," with some Account of the Medical Men Mentioned in That Book. B. M. H. Rogers.
27 *Surgical Aspect of Gylcosuria and Diabetic Gangrene. C. A. Morton.
28 Hyoscin and the Mydriatic Alkaloids. J. M. Fortescue-Brickdale.
29 Excision of Strictures of the Urethra. E. W. H. Groves.
30 An Old-Time Syphilidiater. H. J. Norman.

27. **Surgical Aspect of Glycosuria.**—Morton reports three cases of diabetic gangrene, in which amputation was successfully performed at the joint, under spinal anesthesia.

Clinical Journal, London

December 7

31 Typhoid. W. H. White.
32 Atelelosis (Hastings Gilford's Form of Essential Infantilism). H. B. Shaw.
33 Roentgen-Ray Examination of the Digestive System. R. Morton.

Practitioner, London

December

34 Vaccine Therapy of Bronchitis. A. Latham.
35 Vaccine Therapy of Tuberculosis. H. B. Shaw.
36 Vaccine Therapy. E. v. Ofenheim.

37 Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Mental Diseases. R. Jones.
38 Diagnosis and Home Treatment of Scarlet Fever. F. G. Crookshank.
39 Gallstones. J. Kirkland.
40 Salvarsan. L. F. Knuthsen.
41 Efficacy of Blood-Letting. J. W. Milne.
42 Erythromelalgia. E. A. Chill.
43 Blood Contamination in Organismal Diseases. S. J. Ross.
44 Acute Pyelonephritis of Unusual Severity. S. Kent.

Archives Générales de Chirurgie, Paris

November, IV, No. 11, pp. 1101-1210

45 Cervical Ribs and Their Complications. Report of Five Cases. (Les côtes cervicales.) R. Frœlich.

Archives Internationales de Chirurgie, Ghent

V, No. 1, pp. 1-116

46 Experimental Cancer Research. (Recherches expérimentales sur le cancer.) F. Fichera.

Archives des Maladies du Cœur, etc., Paris

December, III, No. 12, pp. 705-787

47 Embryologic Study of Interauricular Defect. (Coexistence d'une communication interauriculaire et d'une anomalie de la valvule de Thébésius.) C. Lesieur, J. Froment and R. Crémieu.
48 Hemolytic Jaundice. (Ictère hémolytique acquis général et purpura, avec ictère hémolytique local, au cours d'une infection indéterminée.) H. Gougerot and H. Salin.

Bulletin de l'Académie de Médecine, Paris

November 29, LXXIV, No. 38, pp. 359-402

49 *Angina Pectoris. (Le repos au lit et les crises hypertensives dans l'angine de poitrine organique.) C. Flessinger.

49. **Angina Pectoris.**—Flessinger emphasizes the importance of rest in bed as the most effective measure in treatment of angina pectoris. It acts by reducing the arterial tension, while it is a tonic for the heart and reduces its excitability. In order to have the maximum effect, the patient should be kept in bed for from two weeks to two months, the diet being restricted at first to water and milk, gruels, etc., being gradually allowed. The rest in bed should be supplemented with the usual drugs. Nothing can compare in efficacy, he says, with simple rest in bed; the benefit is most apparent in the elderly and those inclined to corpulence who fall off a little in weight. Patients may be classed as (1) those whose arterial tension during the pain keeps normal or below—repose does not modify it; (2) those in whom the tension is high and is not influenced by repose—this is very rare; (3) those in whom the high arterial tension subsides under the influence of the rest in bed—this is the rule in two-thirds of all the cases; (4) those in whom the tension does not subside, but even increases during repose, although the pain does not increase. Among twenty patients from 45 to 73 years old with angina pectoris, he found three with normal or low arterial tension. The tension was unmodified by repose in three other cases, but the pains subsided, showing that the tension was not the cause of the pains during effort. In eleven other cases the rest in bed reduced the arterial tension at once. One patient was a man of 64 with maximal tension of 28 (Pachon) during an attack. Under bed rest, ice to the heart, restriction of his food to water and milk and three injections of 2 mg. of morphin, the tension dropped to 19 and the patient felt like a new man. Another patient had long been having attacks of angina pectoris at the slightest effort. A course of rest in bed and restriction to a milk diet, with a loss of about 14 pounds in weight, restored normal conditions to such an extent that he has been in good health during the eight years since to date, with no recurrence of the angina pectoris. Coronary lesions are not encountered in every case; the aorta or the myocardium may be involved rather than the coronaries. Bed rest is least effectual, Fiessinger adds, in case of concomitant aortic insufficiency.

Lyon Médical, Lyons

November 27, CXV, No. 48, pp. 885-924

50 Should We Fight Fever? (La fièvre est-elle curative?) R. Lépine.
51 *Inheritance of Tuberculosis. Piéry.

December 4, No. 49, pp. 925-980

52 *Fixation Abscess in Treatment of Bronchopneumonia in Infants. Montagnon.
53 Facial Paralysis Symptomatic of Lesions in Pons. L. Bériel.

51. **Inheritance of Tuberculosis.**—Piéry concludes from his study of the inheritance and spread of tuberculosis that the offspring of tuberculous parents are peculiarly liable to tuberculosis, and that the inflammatory tuberculosis (Poncet) should be included in estimating the tuberculosis in the parents. Contagion alone is insufficient, he declares, to explain the great variety in the manifestations of tuberculosis in tuberculous families. The so-called inherited predisposition and prepared soil are generally the result of actual existing infection. The assumption of a tardy hereditary tuberculosis seems to harmonize best to date with the clinical facts observed.

52. **Fixation Abscess for Infants.**—Montagnon reviews the literature on Fochier's turpentine fixation abscess, and states that he has applied this method in treatment of twenty-six children from 4 months to 5 years old. He used .33 c.c. (5 or 6 minims) of turpentine for the purpose in infants under a year old, and 0.5 c.c. (8 minims) in infants from 1 to 5. He finds it most convenient to inject the turpentine in the abdominal wall on a level with and about three fingerbreadths to the left of the umbilicus. An abscess forms and is evacuated about the seventh day; healing is generally complete by the end of the second week. The abscess is not only curative, he asserts, but serves as a valuable index of the child's reacting powers. If there is little or no suppuration, the prognosis is grave. In every case in his experience in which there was no febrile reaction to the injection of the turpentine, the bronchopneumonia proved to be of a tuberculous nature. If in bronchopneumonia the fever persists high and the child still has difficulty in breathing after mustard baths and inhalation of oxygen, he applies the turpentine on the third or fourth day of the disease. The only deaths among the children were in the three tuberculous cases, while the disease had been exceptionally severe in ten of the children who recovered. He gives the curves of several typical cases, illustrating the favorable influence of the fixation abscess.

Obstétrique, Paris

November, III N. S., No. 11, pp. 889-1000

54 *Vaginal Cesarean Section. A. Dührssen.
55 *Rapid Delivery with Undilated Os. E. Hauch.

54. **Vaginal Cesarean Section.**—Dührssen here presents a summary of his arguments for and his experiences with vaginal Cesarean section, or, as he specifically terms his method, metreurynter hysterotomy, and delivery *à la Buddha*. No fatality is known for which the operation was responsible in his forty-two cases nor in Seitz' seventy operations of the kind.

55. **Rapid Delivery with Undilated Os.**—Hauch states that the patients had to be delivered without delay in 212 cases out of 22,000 lying-in cases at the Copenhagen maternity, and he reviews 500 similar cases from other maternities, discussing indications, methods and outcome for mother and child. The tabulated findings afford opportunity for comparison of the various technics. Vaginal Cesarean section requires institutional environment, he says, and, lacking this, instrumental dilatation is the only resource if manual dilatation and the hystereurynter are inapplicable. Instrumental dilatation is liable to induce hemorrhage, but in the cases reported it never proved serious. There is liability to rupture and the consequences of the rupture may give trouble later in a small number of cases. The result for the children is not very good, but the fetus must be already suffering from the effects of the mother's condition for which the urgent delivery is required. In any event, Hauch continues, the dangers from instrumental dilatation are not serious enough to restrict its application at need. The factors for success are the elasticity and suppleness of the tissues of the cervix, and it is difficult to estimate this beforehand. The danger is less the more the cervix gapes, but the danger increases with the size of the fetus. The position of the instrument must be carefully supervised during the entire course of the dilatation, and delivery must follow at once. It is better, he thinks, to do podalic version and deliver the fetus than to attempt a very difficult forceps extraction. Instrumental dilatation failed in 16 out of the 363 cases on record in which this method of

delivery was applied, but in most of the unsuccessful cases the pregnancy was not very far advanced and the cervix was less elastic than at term.

Presse Médicale, Paris

December 10, XVIII, No. 99, pp. 929-936

56 Histomicrobiology of Syphilitic Arteries. A. Sézary.
57 Re-enforcing Screens to Reduce Length of Roentgen-Ray Exposures. (Diminution de la pose en radiographie par les écrans renforçateurs.) A. Laquerrière and L. Delherm.
58 Liver with Floating Lobe. (Le foie à "lobe flottant.") M. Letulle.

December 14, No. 100, pp. 937-944

59 *Streptococcus Peritonitis. L. Boidin and L. Douay.
60 Abram's Method for Percussion of Heart. A. Abrams (San Francisco).

59. **Streptococcus Peritonitis.**—The special features of the case reported were the sudden onset in a girl of 18 of a peritoneal syndrome with diarrhea, semicomatous prostration, suggesting appendicitis at first and later tuberculous peritonitis. Contrary to the usual fatal course of streptococcus peritonitis, an operation nearly a month after the first symptoms was followed by recovery, notwithstanding that the pus filled nearly the entire abdominal cavity, and that there were pulmonary symptoms for a week or so—crepitant râles and mucopurulent sputum, with numerous pneumococci. Only streptococci and colon bacilli could be cultivated from the abdominal pus.

Berliner klinische Wochenschrift

December 5, XLVII, No. 49, pp. 2225-2276

61 *Intravenous Salvarsan Treatment in Syphilis. A. Géronne.
62 Indications for Artificial Interruption of Pregnancy. (Indicationen zur künstlichen Unterbrechung der Schwangerschaft.) S. Hammerschlag.
63 Hysteropexy and Pregnancy. S. Solleri.
64 Symptomatic Myotonic Disturbances with Inflammation in Muscles. M. Salzberger.
65 Pathologic Urinary Pigment. (Neuer pathologische Harnfarbstoff.) F. Lehmann and W. Zinn.
66 Pathologic Ferment Activity. (Pathologische Fermentwirkung.) J. Wohlgemuth. Commenced in No. 48.
67 Medicolegal Aspect of Dazed Conditions. (Forensische Beurteilung der Dämmerzustände.) E. Forster.

61. **Salvarsan in Syphilis.**—Géronne thinks that the intravenous route is the most reliable. The Wassermann reaction became negative in only fifty-seven out of 124 patients examined repeatedly after treatment with salvarsan. One patient in the primary stage gave a negative reaction soon after the injection, but it became positive again six months later, although no secondary symptoms had developed in the interim. In eighteen other primary cases recurrence has been observed since in five, but all the symptoms seem to have permanently subsided since a second injection. He has given salvarsan in 350 cases of syphilis, making about 500 injections in all, and the only toxic phenomena witnessed were slight transient by-effects in a few cases after intravenous injection of the drug. A toxic exanthem developed eight days after the injection in one case, but it was not accompanied by malaise. He intends hereafter to give the drug in intermittent intravenous injection of medium doses, that is, repeating the injection after four or five weeks, especially in the patients with persisting positive Wassermann reaction.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

November 26, XIII, No. 21, pp. 801-848

68 *Tetany from the Surgical Standpoint. K. Wirth. Commenced in No. 20.
69 Radiotherapy and Electrotherapy of Carcinoma and Palliative Operations. E. Venus. Commenced in No. 6.

68. **Tetany.**—Wirth discusses tetany from the standpoint of operative treatment, and tabulates the details of the twenty-one cases of gastric tetany in which an operation was done. The consequences were seventeen complete cures and one material improvement; three of the patients succumbed, notwithstanding the operation. This is a mortality of 15 per cent., while the mortality was from 71 to 77 per cent. and over in Loeb's and Albu's recent compilations of cases in which reliance was on internal measures alone. Wirth advocates operating without further delay when the dilatation of the stomach is due to organic changes; extreme stenosis of the pylorus is frequently accompanied by tetany. A gastroenterostomy puts an end at once to the stagnation of the ingesta, with the consequent irritation of the vagus, entailing continuous hypersecretion, and thus does away with the irritation liable to start the tetany. The moment that the patient begins to lose weight and the amount of urine diminishes, notwithstanding appropriate dieting, bed rest and internal measures, such as lavage of the stomach, a course of bismuth and infusion of fluid by the rectum or subcutaneously, the obstruction preventing the normal emptying of the stomach should be removed or a new passage provided. The slightest indication of tetany at this time is an urgent indication for prompt operative interference. Any delay increases the intoxication of the whole system and magnifies the risks of operation. An operation after the tetany has long been installed with other signs of serious intoxication—delirium, stupor, acetonuria and albuminuria—has far less prospect of success. Fleiner warns against attempting to operate in such conditions, but Albu advises operating in every case unless the condition of the heart, liver or kidneys, apart from the tetany, contra-indicates any intervention. The early operation—prophylactic gastro-enterostomy—gives the best chances. In Warbasse's case a simple gastrostomy answered the purpose. Wirth discusses further the few cases on record in which the tetany developed in connection with some minor surgical measure, in two cases from tapping the abdominal wall with the percussion hammer. The patients in both cases had long suffered from dilatation of the stomach. In another case the tetany came on after introduction of the stomach tube to relieve dilatation. The tetany proved fatal in these patients, a woman of 44 and two men, aged 42 and 64, respectively. In another case a woman of 28 developed tetany after puncture of the abdomen for ascites, but recovered; a man of 35 also developed tetany following puncture for ascites, but existing peritonitis and a pancreatic cyst may have been responsible for the fatality in this case. A number of cases are on record in which tetany came on after injection of some drug or glandular extract or stovain spinal anesthesia (Curschmann). In another case the tetany developed from the pressure of a traumatic retroperitoneal hematoma. Tetany accompanying gall-stones has been observed in a few cases, and also following acute suppuration in the thyroid. Several authors have reported tetany complicating exophthalmic goiter; Wiebrecht found that improvement followed parathyroid treatment in his case of this kind. Narbut has reported the case of a young soldier with tetany resisting all other measures until 50 c.c. of spinal fluid under high pressure was released by spinal puncture. In Levi's case the tetany developed in a young artisan after venesection. Further research will determine whether operative treatment of tetany should be supplemented by administration of parathyroid extract or tissue, internally or by implantation. This might be considered especially in the cases in which marasmus, atrophy or cicatricial tissue suggests the possibility of permanent pathologic changes in the parathyroids.

Deutsche medizinische Wochenschrift, Berlin

December 15, XXXVI, No. 50, pp. 2321-2368

70 *Robert Koch. (Gedächtnisrede.) G. Gaffky.
71 Pneumonia. (Pathologie und Therapie der Lungenentzündung.) C. Hirsch.
72 Salvarsan in Syphilis. (Behandlung der Syphilis mit Arsenobenzol, bes. die Dauerwirkung des Präparates und die Methoden seiner Anwendung.) W. W. Scholtz, Salzberger and Beck.
73 Salvarsan in Syphilitic Eye Disease. (Arsenobenzol gegen syphilitische Augenleiden. II.) E. v. Gross.
74 *Epiphanin Reaction in Serodiagnosis of Syphilis. G. Seiffert.
75 Pregnancy and Tuberculosis. J. Hofbauer.
76 Derivatives of Peruvian Balsam in Treatment of Tuberculous Fistulas. (Behandlung tuberkulöser Fisteln mit Zimtsäurealkylester, nebst Bemerkungen über die Hetolbehandlung und einen neuen Gesichtspunkt in der Tuberkulintherapie.) E. Blos and K. Kronstein.
77 Double Extension for Fractures. A. Heermann.
78 Geographic Tongue, Hereditary and Familial. (Ist die Landkartenzunge erblich?) W. Lublinski.

70. See Berlin Letter, January 14, page 161.

74. **Epiphanin Reaction in Serodiagnosis of Syphilis.**—Seiffert has modified somewhat Weichardt's original technic for this serologic test. It is based on the same principle as Ascoli's meiostagmin reaction, namely, the change in the composition or drop-forming properties of the blood-serum under the influence of antibodies generated in the course of disease. In the serum from seventy-five patients the epiphanin reaction par-

alleled the Wassermann reaction in sixty-four, both being positive in forty-three and negative in twenty-one cases. In eleven cases in which the Wassermann reaction was negative, the epiphanin test gave positive findings in nine, and there were clinical signs of syphilis in all. The results of the epiphanin test were constantly negative in patients with non-syphilitic affections, including twelve typhoid, two paratyphoid, eight tuberculous and two scarlet fever patients. Seiffert's technic for the test is based on the change of tint of a phenolphthalein solution, while the meiostagmin reaction is estimated by the stalagmometer. Weichardt uses the diffusiometer. Seiffert adds a drop of an alcoholic solution of phenolphthalein to the mixture of syphilitic serum and extract of a syphilitic organ: 0.1 c.c. of a 10 per cent. solution of the serum in physiologic salt solution is mixed with 0.1 c.c. of an alcoholic extract of a syphilitic fetal liver. To this is slowly added 1 c.c. of decinormal sulphuric acid and 1 c.c. of a solution of barium hydroxid of the exact concentration needed to neutralize the sulphuric acid solution. On the addition of the drop of the stain, the fluid turns red when the serum is from a syphilitic, while there is no change in tint with non-syphilitic serum.

Medizinische Klinik, Berlin

December 11, VI, No. 50, pp. 1965-2004

79 Psychology Applied in Gynecology. (Einiges über die Verwertung von Psychologie in der Frauenheilkunde.) H. Sellheim.
80 *Transient Disturbance in Vestibular Nerve After Salvarsan. (Ueber transitorische Fasererkrankung des Nervus vestibularis bei mit Ehrlich-Hata 606 behandelten Kranken.) O. Beck.
81 Salvarsan in Treatment of Tertiary Syphilis. (Zur Behandlung der tertiären Syphilis mit Ehrlich's Arsenobenzol.) J. Fabry.
82 Salvarsan in Syphilis. (Erfahrungen mit Ehrlich 606 bei subkutaner und intramuskulärer Anwendung.) R. Ledermann.
83 Electricity in Tabes. F. Walzer.
84 Case of Landry's Paralysis. Wadsack. Commenced in No. 49.
85 Cancer Extract in Experimental Sarcoma. (Ueber Heilungsversuche bei einem Rattensarkom.) F. Blumenthal.

80. Transient Disturbance in Vestibular Nerve Under Salvarsan.—Beck has encountered four cases in which an isolated disturbance in the vestibular branch of the auditory nerve became evident after injection of salvarsan on account of syphilis. The features of the disturbance, in three cases at least, indicated, he thinks, that it was a phenomenon forming part of the Herxheimer reaction. It persisted longer than the skin manifestations, but subsided by the end of two weeks at most in every case. The hyperemia and serous imbibition of the nerve in the reaction caused the trouble on account of the peculiarly narrow channel in the bone in which these nerve fibers run. The possibility of a vestibular disturbance of the kind should be borne in mind in administering salvarsan to patients with existing ear trouble.

Münchener medizinische Wochenschrift

December 6, LVII, No. 49, pp. 2561-2616

86 *Sacral Anesthesia in Gynecology and Obstetrics. H. Schlimpert and K. Schneider.
87 Physiologic Puerperal Bradycardia. A. Hamm.
88 Healthy Dysentery Bacillus-Carriers. (Zur Bekämpfung gesunder Ausscheider von Dysenteriebazillen.) O. Mayer.
89 *Postdiphtheritic Paralysis and Repeated Diphtheria. C. Kayser.
90 Toxic Action of Sugar After Feeding with "Albumin Milk." (Ueber toxische Zuckerwirkung nach Eiweissmilchernährung). J. Braunmüller.
91 The Physiologic Rôle of the Calcium Salts. O. Loew.
92 Urobilin in the Blood. W. Hildebrandt.
93 Practical Application of Wassermann Reaction, Especially in Stern's Modification. F. Hayn and A. Schmitt.
94 Reacting Power of the Organism and Treatment of Syphilis. H. Hecht.
95 Salvarsan in Syphilitic Eye Disease. (Ehrlich-Hata bei luetischen Augenerkrankungen.) C. Hirsch.
96 Salvarsan in Syphilis. D. Montesanto (Athens).
97 *Treatment of Ankylosis of the Knee. (Behandlung der Kniesteifung.) T. Müller.
98 Chloroform-Oxygen General Anesthesia. H. Ziegner.
99 Diseases in Japan Caused by Animal Parasites. Y. Tanaka.

86. Sacral Anesthesia in Gynecology and Obstetrics.—Recent modifications of the epidural technic have improved this method of anesthesia so that Schlimpert and Schneider commend it as an excellent means to control labor pains and for surgical anesthesia in operations on the genital and anal regions. It seems to be harmless, but the technic is difficult to master in case of corpulent patients. They generally combined it with the scopolamin-morphin technic.

89. Postdiphtheritic Paralysis.—Kayser reports that three children in one family developed paralysis after diphtheria; the mother had diphtheria also during the same epidemic. It was learned further that the father had had paralysis after diphtheria at the age of 5. The four children in this family were accustomed to the use of alcohol. One of the children had had diphtheria before, several years before the present attack. Kayser discusses whether such cases of recurring diphtheria and recurring after-affections may not be regarded as an allergy reaction.

97. Treatment of Ankylosis of the Knee.—Müller has obtained good results by mobilizing the knee in profound anesthesia, then immobilizing it in extreme flexion for twenty-four hours, then suspending the knee in a sling during the day from a high crossbar in such a way that the leg below the knee hangs free and its weight helps to correct the ankylosis. At night the suspending sling is removed and the leg left free. There is nothing to interfere with massage of the leg. The article is illustrated.

Wiener klinische Wochenschrift, Vienna

December 15, XXIII, No. 50, pp. 1779-1830

100 *Cause of Cancer. (Die Ursache der Krebserkrankung.) A. Jaeger.
101 *Lead Poisoning. Pathologie und Frühdiagnose der Bleivergiftung.) M. Sternberg.
102 *Electric Accidents. (Electropathologica.) S. Jellinek.
103 Ineffectual Action of Preparations of Tubercle Bacilli Administered by the Mouth. T. Pfeiffer and J. Leyacker.
104 Salvarsan in Private Practice. (Zur Anwendung des Arsenobenzols in der Privatpraxis.) E. Glass.

100. Cause of Cancer.—Jaeger declares that it is high time to give up all claims that cancer can ever be of infectious origin and contagious. Everything speaks against this assumption, he asserts, and presents arguments to prove that cancer is a disease of the intracellular metabolism.

101. Early Diagnosis of Lead Poisoning.—Elimination of lead in urine or stool and the blue line on the gums are the most important and obvious signs of lead poisoning, but others are the peculiar worried expression or a drawn smile, anemia, slight tendency to jaundice, dyspepsia, hematoporphyrin in the urine, punctate red corpuscles, alimentary dextrosuria and levulosuria, increased blood-pressure and exaggerated tendon reflexes.

102. Electric Accidents.—Jellinek reports a case of suicide from electricity, and a case in which the victim of an electric accident was able to rescue himself. The man was standing on a ladder working at an electric wire carrying a weak current; near his feet ran the wire of the trolley-car service. He was mounting two brass tubes, when one, bent at a right angle, hit the live wire below and the street current of 540 volts passed through this tube in his right hand to the other tube in his left hand. Notwithstanding the intense contracture and spasms induced in his hands and arms, he succeeded in bringing the two metal tubes into contact, thus short-circuiting the currents through the tubes; he escaped with scarcely any injury except the burns where the metal tubes were partially fused by the current. The characteristic injury on the hands was an irregular circular defect, about half an inch in diameter, extending into the subcutis, of a grayish-white to yellow color, the edges of the wound were raised and were hard and tough to the touch, without any relative redness around and were non-sensitive. Especially characteristic was the button-like, shallow, hard elevation of epidermis on the right thumb with a shallow hollow in the center, and dirty brown in color. It was non-sensitive even to needle pricks, but the sense of touch was retained. The forensic importance of such injuries is shown by a recent case of sudden death in which the discovery of a similar lesion first suggested that the man had been the victim of an electric accident, further investigation confirming the correctness of this assertion. It is the first case on record, Jellinek believes, in which the cause of death was revealed by this means. In the case reported, neither the heart nor respiration seemed to be affected by the current; the man screamed for help but was not heard on account of noises around. In a suicide case a

young farm-hand gambled away all of his savings one night and wrote a letter of farewell to his father and fiancée. He then tied a weight in a handkerchief, fastened a long wire to the handkerchief, and holding the wire in one hand must have thrown the weight with the other hand over the trolley wire carrying 20,000 volts, as he was found lying dead in the road still holding the wire. Jellinek also mentions a case in which a man wrapped up his hand and then touched with it a live wire to induce injuries entitling him to "workmen's compensation."

Zentralblatt für Chirurgie, Leipsic

December 3, XXXVII, No. 49, pp. 1545-1576

105 Long Clamp for Hemostasis in Trephining. M. Makkas.
106 *Bloodless Operations on the Liver. (Blutlose Leberoperationen.) A. Baron.
107 Toxic Action from Scarlet-Red Salve. S. Gurbski.

December 10, No. 50, pp. 1577-1600

108 *Diagnosis of Injury of Spleen. (Zur Diagnose der Milzverletzungen.) L. Levy.
109 Shutting Off Part of Circulation as Aid in General Anesthesia. (Die Extremitätenstaung, eine einfache Methode zur Blut- und Chloroformersparnis bei Operationen an anderen Körperstellen.) H. Haus.

December 17, No. 51, pp. 1601-1632

110 Acute Hemorrhagic Pancreatitis Induced by Experimental Stasis in Pancreatic Duct. H. Seidel.
111 Roentgen-Ray Diagnosis of Renal Tuberculosis. (Nierentuberkulose im Röntgenbilde.) A. Hofmann.

106. **Bloodless Operations on the Liver.**—Baron found it possible to operate on dogs without any loss of blood by the technic which he describes. He first clamps the portal vein, hepatic artery and common bile duct with a clamp with soft blades, the liver is then drained toward the heart until free of blood, and the desired operation can be done on it without loss of blood. He then seizes arteries, veins and bile ducts with clamps, draws them out and ligates them. Examination of the parts at various intervals afterward, up to three months, failed to reveal any gross or microscopic injury from the compression. Air embolism and after-hemorrhage were not observed in any case. The blades of the clamp are slipped in rubber tubing, and the hepatoduodenal ligament is clamped as the first step in the operation. He thus resected more or less of the liver in ten dogs and no signs of peritonitis, thrombosis or after-hemorrhages were observed in any instance. The method is particularly useful, he believes, in case of injury of the liver. The clamp can be applied as soon as the abdomen is opened; there is no further bleeding. This method is also promising for operations on the gall-bladder or malignant disease, and it would also much facilitate anastomosis between the liver and bile duct. The conditions in regard to the blood-supply in the dog are similar to those in man, so that he is confident that the procedure will be found serviceable in the clinic.

108. **Diagnosis of Injury of the Spleen.**—Levy calls attention to the sharp pains in the shoulder region which differentiated the injury of the spleen in the case of abdominal contusion reported. The area of dulness over the spleen was not enlarged but the pains in the shoulder region confirmed the assumption that the spleen had been injured; it was found lacerated at two points and was removed. The patient rapidly recovered and not long after passed successfully through an explosion with severe burns. The loss of the spleen did not interfere with recovery from this second injury; the bone marrow must have vicariously done the work of regeneration of red corpuscles after the severe burns.

Zentralblatt für Gynäkologie, Leipsic

December 3, XXXIV, No. 49, pp. 1585-1608

112 *Suggestion Anesthesia and Hypnosis. J. Kocks.
113 *Vaginal Cesarean Section in Russia. S. Rosenfeld.

December 10, No. 50, pp. 1609-1640

114 *Mammary Gland as Source of Eclampsia Toxin. (Die mammäre Theorie über Entstehung des Eklampsiegiftes.) H. Sellheim.
115 Direct Application of Heat to Interior of Uterus. (Thermische Uterussonde.) L. Seitz.
116 *General and Local Anesthesia in Gynecology. W. Losinsky.

December 17, No. 51, pp. 1641-1672

117 Immunization Against Puerperal Infection. E. v. Graff.
118 Two Cases of Repeated Extra-Uterine Pregnancy. M. Gerschun.
119 *Easy and Rapid Mechanical Reposition of Retroflexed Uterus. O. Goldberg.

112. **Suggested Anesthesia.**—Kocks does not hesitate to say that hypnosis is mostly humbug; the hypnotizer is self-deceived and also the public, he declares, and he gives a number of personal experiences to sustain this view. At the same time he has found that it is possible to tranquilize patients with a suggestion of anesthesia which is extremely useful. It does not prevent the experiencing of pain when sensitive tissues are incised or pulled, but it removes the dread and excitement. In some cases he makes use of the chloroform apparatus without any chloroform or ether; the mere sight of the apparatus and its being set to work quiets the pulse, but there is no hypnotic suggestion. He tells the patient that no pain will be felt or so little that it will be bearable; operative measures in the vagina and uterus seldom induce pain. In other cases he injects a few drops of a solution of phenol, which the patient thinks is cocain, and under this local anesthesia the operation can be tranquilly entered on and completed. A few drops of chloroform may reinforce the tranquilizing measures but he scoffs the idea of its being hypnotic suggestion.

113. **Vaginal Cesarean Section in Russia.**—Rosenfeld has found records of fifty-one cases in which vaginal Cesarean section has been done in Russia and adds to this number two cases from his own practice. The results were satisfactory. Anterior vaginal hysterotomy was the preferred method, and the operation was done for various indications, eclampsia, rupture, endometritis, placenta prævia and hemoptysis at the seventh month. Some of the authors did not hesitate to operate in this way during the first half of pregnancy, and for evacuation of the uterus after abortion with complications.

114. **Eclampsia Due to Intoxication from Mammary Gland.**—Sellheim discusses various facts in relation to eclampsia which seem to sustain the assumption that the mammary gland may be the source of the intoxication, and relates the details of three cases in which he operated in accordance with this view. In the first case severe eclampsia persisted long after the uterus had been emptied. None of the usual measures having any influence on the convulsions, he then injected potassium iodid directly into the breast tissue. Immediately a change for the better was apparent, and the patient rapidly recovered. In a more recent case a robust primipara was unconscious when first seen, numerous convulsions preceding and following extraction of a dead seven-months' fetus by vaginal Cesarean section. Every hour or so afterward severe convulsions followed, growing constantly worse, the coma becoming deeper, the pulse 160 and weak, the cyanosis more pronounced. Sellheim then injected potassium iodid into the breast, pushing the needle deep into the gland tissue, pointing it in different directions, and pumping with a bulb until 1,000 c.c. of a 0.9 per cent. salt solution containing 1.5 gm. of potassium iodid had been thus injected. The injection took about fifteen or twenty minutes. As he then looked again into the patient's face he saw a decided change for the better, the tint was less livid and it rapidly grew more natural while the pulse became stronger. An hour later the patient sweat profusely; the same amount of the iodid solution was injected again into the breast four hours later and again after another four hours. The urine had been bloody and contained large amounts of albumin before the first injection of potassium iodid, but it soon became normal in tint, with only 1 per 1,000 albumin by the end of twenty-four hours, and recovery was soon complete. In a third case, a primipara of 24 developed severe eclampsia six hours after normal delivery, and Sellheim excised the mammary gland on both sides through a curving incision below each breast. He gives the pulse and other curves in this case to show the immediate turn for the better that followed. Subcutaneous excision of mammary-gland tissue is a far simpler operation than forcible delivery and decapsulation of the kidneys, and in desperate cases, in which no other organ can be incriminated, he is confident that this operation may prove of supreme importance.

116. **Anesthesia in Gynecology.**—Lobinsky concludes from the experience at Kiev that local anesthesia by the infiltration method is the best for plastic operations on the perineum and

vagina, and that epinephrin should be used only in the smallest amounts and weakest concentration in operations on the female genitals.

119. **Reposition of Retroflexed Uterus.**—Goldberg introduces a Hodge pessary, pushing the broader end well up into the posterior vaginal vault; the smaller end of the pessary is then pushed farther back into the vagina. The displacement is corrected by this maneuver or it only requires a little further manipulation to restore the organ to its normal place. The reposition is the effect of the leverage from the pessary and the induced tension of the ligaments. He summarizes reports of twenty cases to show the efficiency of this simple method.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 1, XXXI, No. 144, pp. 1521-1528

120 Diagnostic Importance of Lipase in Urine. G. Tanfani.

December 4, No. 145, pp. 1529-1544

121 Hydrogen Dioxid in Hyperchlorhydria. (Il perossido d'idrogeno nell' ipercloridria.) P. Girardi.

December 6, No. 146, pp. 1545-1552

122 *Iodin Sterilization of the Skin. (Il metodo Grossich per la disinfezione della pelle.) C. Mantelli.

December 8, No. 147, pp. 1553-1560

123 Temporary Excessive Contraction of the Heart Just After Compensation is Complete. (Sulla ipersistole.) A. Bruno.

December 11, No. 148, pp. 1561-1576

124 Pathogenesis of Purpura Hemorrhagica. T. Di Guiseppe.

122. **Iodin Sterilization of Wounds and Field of Operation.**—Mantelli states that Grossich's technic has been applied in 700 aseptic operations at Bajardi's clinic in the last year, and the wounds have healed by primary intention without a single exception and without dermatitis in any instance. He reports bactericlogic research to determine the thoroughness of the sterilization that follows painting the region with tincture of iodin, the results being convincing in the extreme.

Policlinico, Rome

November 27, XVII, No. 48, pp. 1507-1538

125 *Tuberculin Skin Reaction in Syphilis and in Metasyphilitic Disease. F. Costantini.

December 4, No. 49, pp. 1539-1570

126 *Latent Malaria. G. Ianni.

December 11, No. 50, pp. 1571-1602

127 *Castration and Thyroidectomy. T. Silvestri.
128 Subcutaneous Injection of Phenol in Tetanus. (Il metodo Baccelli sulla cura del tetano.) A. Bellussi.
129 Prevention of Spread of Venereal Disease. V. E. Ovazza.

125. **Local Tuberculin Reactions in Syphilis.**—Costantini obtained a positive response in all but three out of forty-seven syphilitics tested with the intradermal technic according to Mantoux, and the Wassermann reaction paralleled the positive skin findings. In twelve patients with paralytic dementia both findings were also positive in 76 per cent. He comments that these local tuberculin reactions cannot be utilized for differentiation of syphilis and tuberculosis, but that, if tuberculosis can be excluded, positive findings are strong presumptive evidence in favor of syphilis.

126. **Healthy Malaria-Parasite Carriers.**—Ianni has examined the blood of over 2,000 transient or permanent inhabitants of endemic foci of malaria, and found the malaria plasmodia in the blood of fifty-three out of 146 persons free from the slightest indication of malarial disease. This large percentage of healthy carriers he thinks is extremely important from the standpoint of general prophylaxis of malaria. When no parasites were found in the peripheral blood, he gave a single therapeutic dose of strychnin, and found that in from thirty to sixty minutes the parasites ensconced in internal organs were driven out by the action of the drug and could then be discovered in the peripheral blood. Not until the findings were constantly negative after this test was the individual regarded as free from the germs.

127. **Castration Plus Thyroidectomy.**—Silvestri found that young rabbits, dogs and guinea-pigs and the male adult animals after castration reacted to removal of the thyroid and parathyroids the same as normal animals, but female adult animals after castration seemed to bear without injury the removal of the thyroid and parathyroids. The appetite remained good and there were no signs of disturbance from the loss of the glands, except possibly an increase in weight. The age and sex seem to determine the outcome.

Riforma Medica, Naples

November 21, XXV, No. 47, pp. 1289-1316

130 *Is Kala-Azar Transmitted by Inoculation? (Intorno al kala-azar.) U. Gabbi.
131 Peptone in the Urine. (Indagine chimico-fisica del peptone nell'urina.) G. Moscati.

November 28, No. 48, pp. 1317-1344

132 Gastric Motor Disturbances. (Gastropatie dinamiche ed organiche. XIII.) G. Rummo.
133 Action of Quinin on the Autolysis of Spleen and Liver. G. Moscati.
134 Plastic Operation with Cremaster Muscle in Treatment of Inguinal Hernia. O. Marchetti.

December 5, No. 49, pp. 1345-1372

135 Albumosuria in Albuminuria. L. Marenduzzo.
136 Research on Absorption from Gall-Bladder. (Sulla permeabilita della cistifellea.) G. Moscati.
137 Graphic Registration of Action of Left Auricle. (La grafica dell' atrio sinistro; il suo significato e la sua importanza diagnostica.) W. Janowski.

130. **Kala-Azar.**—Gabbi has encountered twenty more cases this year and others fifty more, the patients being all children in southern Italy. He believes that if the disease were always recognized it would be found that several hundreds die annually from it in southern Italy and Sicily. It is almost invariably fatal, and he believes that it is inoculable, for reasons which he cites, and that the bedbug is probably the intermediate host, not the dog as Nicolle has recently stated. The disease seems to occur in the spring; only one case is on record as late as August and only one as early as February. Recently he called attention to the difference between the febrile and the afebrile forms of infectious splenic anemia in children and ventured the assertion that the former was true kala-azar. It seems to be invariably restricted to the families of the working classes while the afebrile form is encountered among the well-to-do. Puncture of the spleen or bone marrow is the only means to reveal the parasites, the Leishman bodies, causing the syndrome, which in many respects resembles chronic wasting malarial fever.

Hygiea, Stockholm

November, LXXII, No. 11, pp. 1169-1296

138 History of Inoculation Against Small-Pox. (Ur koppympningens historia.) V. Djurberg.
139 Combination of Albuminous Substances in the Blood with Iodin After Administration of a New Iodin Preparation, a Derivative of Tannic Acid. C. J. Enebuscke (New York).
140 Chemical Study of Swedish Oil of Pine. (Bidrag till kännedomen om svensk tallbarrsolja.) T. Ekecrantz.

Norsk Magazin for Lægevidenskaben, Christiania

December, LXXI, No. 12, pp. 1267-1378

141 *Foreign Bodies in the Esophagus. (Om fremmedlegemer i øsofagus og deres behandling.) V. Uchermann.
142 *Hemolytic Jaundice. (Hæmolytisk ikterus.) G. A. Haus.
143 *Old Primiparæ. (Om ældre Isteganggødende.) T. Hesselberg.
144 Ten Years' Experience with Sanatorium Treatment of Pulmonary Tuberculosis. (En tiaarsstatistik fra Reknes sanatorium for tuberkuløse.) I. F. Lorentzen.

141. **Foreign Bodies in the Esophagus.**—Uchermann has had a few patients die from this cause in his service at Christiania, and discusses some of the lessons learned from this experience. Among them is the necessity for examining the opposite side of the esophagus when the foreign body is removed from without. When it is large and has been impacted for some time the tissues are likely to be injured all around, and especially at both ends of the foreign body, so that the perforation may be double and infection may occur from the side opposite the incision. It is sometimes wise to open into the esophagus from the opposite side to explore the other side; he found this of great advantage in one case which certainly would have terminated fatally without it. The first point to be ascertained is the nature of the foreign body that has been swallowed, whether it has smooth or sharp edges. In one case the family related that the child had swallowed a cloth-covered button from her father's underdrawers, and as there was not much disturbance, and the child was able to swallow fluid food and did not seem much incommoded, while the Roentgen picture showed the button lodged not far down, several days were allowed to elapse while a suitable button-

catcher was being made, with which the button was finally safely removed. But instead of being as described, the button was of another kind and had sharp edges which had burrowed into the walls and the child died of sepsis two days later. Another lesson learned from his experience is that the Roentgen-ray examination should be done by an expert; in one case the radiograph was said to show the foreign body in a bronchus, and tracheotomy and bronchoscopy followed at once but no trace of the foreign body could be found. Another radiograph showed the foreign body in the cecum. It had evidently been in the esophagus when first seen. The foreign body is liable to induce spasmodic contraction which renders dangerous any attempt at instrumental exploration. In two cases the patients succumbed to sepsis from perforation of the esophagus by the instrument used in the attempts at extraction, remote from the actual site of the foreign body.

142. **Hemolytic Jaundice.**—Haus reports a typical case, the chronic jaundice continuing for three years till death. The findings suggest that this hemolytic form of jaundice should be classed with essential, possibly with pernicious anemia, as essentially a disease of the blood. He compares the clinical course and necropsy findings in his case with the few similar ones on record. His patient was a factory hand, 36 years old, whose sister and child had died from tuberculosis.

143. **Elderly Primiparæ.**—Hesselberg tabulates the age, duration of labor and other particulars of the first delivery of 200 women over 30, comparing them with an equal number of primiparæ under the age of 20. Twelve of the women were between 40 and 44. There was no mortality among the elderly parturients but there was a febrile morbidity of genital origin in 14.1 per cent., while the younger women under 20 had a febrile morbidity of genital origin in 20.6 per cent. The primary and secondary fetal mortality among the children amounted to 10.2 per cent., in the older and 4.8 per cent. with the young women. In 9.3 per cent. of the older women the uterus had to be evacuated by hand, while this was necessary in only 4.3 per cent. of the young women. Labor lasted for from twenty-one to twenty-nine hours in the older women and only fifteen hours in the younger.

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145 *Duodenal Ulcer. (Om Diagnosen og Behandlingen af det ikkeperforerede Duodenalsaar.) S. Kemp. Commenced in No. 49.

145. **Diagnosis of Duodenal Ulcer.**—In addition to the signs and symptoms generally emphasized, Kemp calls attention to the fact that in his ten operative cases gastric hypersecretion was a constant finding and in a degree seldom encountered under other conditions, not even with gastric ulcer. Hypersecretion therefore suggests either gastric or duodenal ulcer, and when excessive speaks strongly for the latter. Two of his patients vomited about a liter of extremely acid fluid from the fasting stomach and all but two had more or less fluid in the fasting stomach and generally considerable acidity. Gastric motor insufficiency was also the rule with duodenal ulcer in his experience; three of the patients had continuous retention, one considerable retention eight hours after an Ewald test meal, one after six hours and two after five hours. Three of his six patients without continuous retention had pylorospasm, and all those with continuous retention. Great variations in the amount of fluid found in the fasting stomach may be regarded as evidence of occasional transient pylorospasm. He has a record of pylorospasm in only three of his seventy patients with gastric ulcer, while it was manifest in seven of his ten patients with duodenal ulcer. Examination of the stomach functioning will often throw light on the dubious cases of duodenal ulcer. In regard to treatment, he says that the same principles apply as to gastric ulcer only that the hemorrhage from a duodenal ulcer may be harder to control. Medical measures should be the routine treatment; operative treatment should be instituted only when they fail. He operated on account of stenosis in two cases; for repeated, chronic bleeding in another, for results of pylorospasm in three and for recurrence of symptoms after an at first apparently successful course of medical treatment in three cases. With duodenal ulcer there is less danger of cancer later than with gastric ulcer; cancer of the duodenum seems to be extremely rare.

Upsala Läkareförenings Förhandlingar

N. S. XVI, Nos. 1-2, pp. 1-136. . Last indexed Nov. 12, 1910, p. 1772

146 *Råles After Tuberculin Injections Not Always Sign of Specific Focal Reaction. (Rassel efter tuberkulininjektion, som icke äro uttryck for specifik härdreaktion.) G. Bergmark.

147 Swedenborg as an Anatomist. (Om Emanuel Swedenborg som naturforskare och i synnerhet hjärnanatom.) M. Ramström.

148 Swedenborg's Conception of the Functioning of the Brain. (Hvarpå grundar sig Swedenborgs åskit om hjärnans funktion, och särskildt om hjärnbarken som själsverksamhetens säte?) M. Ramström.

146. **Råles After Injection of Tuberculin Not Necessarily a Focal Reaction.**—Bergmark applied the subcutaneous tuberculin test to a girl of 9 who had a small, old and evidently calcified apical tuberculous process, and a recent acute bronchopneumonia, involving the other apex; the rest of both lungs was apparently intact according to the Roentgen-ray findings. An intradermal injection of tuberculin induced a lively reaction and a subsequent subcutaneous injection of tuberculin was also followed by a still more intense reaction including a pronounced exanthem and enanthem in the mouth with conjunctivitis—all these developed some time before changes in the focus indicated a focal reaction. At the same time as the exanthem and enanthem developed, råles were evident in the lower part of the lungs, and Bergmark presents evidence and arguments to prove that these råles were part of the early enanthem reaction, and that they had nothing to do with the true focal reaction later.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. REPORT ON AN OUTBREAK OF TYPHOID FEVER AT OMAHA, NEB. (1909-1910). By L. L. Lumsden. II. THE WATER SUPPLY OF WILLIAMSON, W. VA., AND ITS RELATION TO AN EPIDEMIC OF TYPHOID FEVER. By W. H. Frost. Hyg. Lab. Bull. 72, November, 1910. U. S. P. H. and M.-H. S. Paper. Pp. 94, with illustrations. Washington: Government Printing Office, 1910.

MEDIZINAL-BERICHTE ÜBER DIE DEUTSCHEN SCHUTZGEBIETE: Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen, Marshall-Inseln und Samoa für das Jahr 1908-1909. Herausgegeben vom Reichs-Kolonialamt. Paper. Price, 9 marks. Pp. 522. Berlin: Ernst S. Mittler und Sohn, Königliche Hofbuchhandlung, Kochstrasse 68, 1910.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 East 59th St.

INTERNE KLINIK DER BÖSARTIGEN NEUBILDUNGEN DER BAUCHORGANE. Von Dr. Rudolf Schmidt, k. k. Primararzt am k. k. Kalserin Elisabeth-Spital, Wien. Paper. Price, 14 marks. Pp. 355. Vienna: Urban und Schwarzenberg (American Publishers: Rebman Co., New York), 1911.

THE WORK OF THE EDWARD SANATORIUM. An Institution for the Treatment of Incipient Pulmonary Tuberculosis. Jan. 15, 1907, to Sept. 1, 1910. Including the Annual Report for 1909. Founded Jan. 15, 1907. Paper. Pp. 78, with illustrations. Naperville, Illinois.

REPORT OF THE CHIEF OF THE BUREAU OF ANIMAL INDUSTRY FOR 1910. By A. D. Melvin. (From Annual Reports of the Department of Agriculture.) U. S. Department of Agriculture. Paper. Pp. 83. Washington: Government Printing Office, 1910.

THE HARVEY LECTURES. Delivered under the Auspices of the Harvey Society of New York, 1909-1910. By various authors. Cloth. Price, $2 net. Pp. 276, with 48 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

BIENNIAL REPORT OF THE DAIRY AND FOOD COMMISSIONER OF WISCONSIN. For the Period Ending June 30, 1910. J. Q. Emery, Dairy and Food Commissioner, Madison, Wis. Cloth. Pp. 368, with illustrations. 1910.

UNIVERSITY OF BOMBAY CALENDAR FOR THE YEAR 1910-1911. Cloth. Volume I, price, 3 rupees. Pp. 969. Volume II (Examination Papers of 1909-1910), price, 2 rupees. Pp. 342. Bombay, 1910.

CONSTITUTION, BY-LAWS, OFFICERS AND LIST OF MEMBERS OF THE SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL. 1910-1911. Cloth. Pp. 74. Dr. J. J. Nutt, Secretary, 2020 Broadway, New York.

DIÄTETIK INNERER ERKRANKUNGEN ZUM PRAKTISCHEN GEBRAUCHE FÜR AERZTE UND STUDIERENDE. Von Dr. Theodor Brugsch. Paper. Price, 4.80 marks. Pp. 245. Berlin: Julius Springer, 1911.

THIRTY-SECOND ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF LAWRENCE, MASS. For the Year Ending Dec. 31, 1909. Paper. Pp. 64.